

AUSSIE BACKYARD BIRD COUNT

2021 Results for Greater Shepparton City Council

Brolga package with Add-on

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18-24 October 2021


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Introduction



In 2014, as part of BirdLife Australia's National Bird Week celebrations, BirdLife Australia ran the first ever Aussie Backyard Bird Count — now one of the largest citizen science projects of this nature in Australia. The Aussie Backyard Bird Count provides an opportunity for everyone — from school children, senior citizens, families and community groups — to become citizen scientists for one week every October. With over 85% of Australians living in urban environments with often limited opportunities to experience nature, the Aussie Backyard Bird Count is a great way to get outside and connect with nature.

The data collected by these citizen scientists plays a vital role in providing important information to BirdLife Australia. We know more about our threatened birds than we do about our common backyard birds and the Aussie Backyard Bird Count helps to fill this knowledge gap, as well as increasing our understanding of Australian bird species that live where people live. The Aussie Backyard Bird Count also helps raise the profile of bird species throughout Australia, highlighting their importance and promoting a national passion for Australian birds.

Each year this natural passion is confirmed, with the Aussie Backyard Bird Count attracting significant interest from the public eager to be involved and help contribute to our growing knowledge of Australian birds. Public involvement continues to increase each year the Aussie Backyard Bird Count is run, with the number of birds counted also significantly increasing each year. Additionally, involvement by local councils increases year-on-year with more bird-focused events being held during Bird Week, improving the awareness and importance of local birds within their communities. And with the release of lesson plans which encourages students to participate both at school and at home, the number of schools participating in the Aussie Backyard Bird Count continues to grow.

The national focus on birds is extremely important with data showing Australian backyards have been shrinking since the 1990s, and populations of some of our most familiar birds like the Laughing Kookaburra, have also declined. While data collected from the Aussie Backyard Bird Count is currently only a baseline, results from the past four years show that Australian backyards — in all their shapes and sizes — continue to attract a range of birds, giving us hope that even as the iconic Aussie backyard shrinks, many native birds can and do remain. Results from the Aussie Backyard Bird Count support the decline in kookaburra numbers over the years while aggressive species such as the Noisy Miner appear to be increasing. With growing national and international concern for the welfare of these iconic Australian birds, citizen science projects such as the Aussie Backyard Bird Count can help provide an insight into how Aussie birds are faring and results can help formulate subsequent management decisions.

The next Aussie Backyard Bird Count will take place from 17 - 23 October 2022

2021 Aussie Backyard Bird Count Results

Count Summary

The following statistics summarise the results of the 2021 Aussie Backyard Bird Count for the **Greater Shepparton City Council**. The count ran from the **18th to 24th October 2021**.

- **286** observers participated in the bird count, submitting **585** checklists.
- Submitted checklists ranged from between **1** and **28** per registered user (average of **2.95** per registered user).
- Observers counted birds for a combined duration of **183** hours and **37** minutes.
- Observers recorded a total of **18,523** individual birds during Bird Week.
- **152** bird species were recorded (Table 1).
- The reporting rate for individual species (percentage of total surveys a species was detected in) ranged from **0.17 %** (representing a single observation) to **62.74 %** (Table 1). Low reporting rates for species with high counts indicate that many birds of these species were reported within single surveys (i.e., seen in family groups or large flocks).

Table 1: Total count and reporting rate (%) of all 152 bird species observed within the Greater Shepparton City Council boundaries during the 2021 Aussie Backyard Bird Count.

* Introduced species; RA = Rare; NT = Near Threatened; VU = Vulnerable; En = Endangered, CE = Critically Endangered (based on IUCN listings; BirdLife Australia, 2019).

Bird Species	Count	Reporting Rate (%)	Bird Species	Count	Reporting Rate (%)
House Sparrow *	2486	58.29	Common Bronzewing	9	1.03
Australian Magpie	1194	62.74	Australian Reed-Warbler	9	0.68
Red Wattlebird	1055	50.26	Brown Falcon	9	0.68
Sulphur-crested Cockatoo	976	33.68	Pied Currawong	9	0.68
Galah	846	32.65	Eurasian Tree Sparrow *	9	0.51
Common Starling *	846	20.85	Australasian Grebe	9	0.34
Crested Pigeon	802	41.88	Budgerigar	9	0.17
Common Blackbird *	764	50.6	Azure Kingfisher (NT)	8	1.03

Welcome Swallow	718	28.72	Brown Goshawk	8	0.85
New Holland Honeyeater	688	32.65	Cockatiel	8	0.68
Noisy Miner	490	22.05	Spotted Pardalote	8	0.68
Common Myna *	458	21.71	Musk Duck (VU)	8	0.51
Willie Wagtail	409	30.77	Purple-crowned Lorikeet	8	0.34
Australian Wood Duck	393	14.02	Mistletoebird	7	0.85
White-plumed Honeyeater	383	18.12	Australian Hobby	7	0.68
Superb Fairy-wren	378	18.97	Wedge-tailed Eagle	7	0.51
Australian Raven	361	23.25	Muscovy Duck *	6	1.03
Rainbow Lorikeet	336	14.02	Collared Sparrowhawk	6	0.85
Red-rumped Parrot	322	9.74	Little Grassbird	6	0.85
Pacific Black Duck	321	13.16	Peaceful Dove	6	0.85
Little Corella	313	8.55	Helmeted Guineafowl *	6	0.34
Eastern Rosella	300	17.26	Grey Currawong	6	0.17
Magpie-lark	293	25.3	Cattle Egret	5	0.51
Fairy Martin	202	5.3	Golden Whistler	5	0.51
Australian White Ibis	186	13.68	Black-fronted Dotterel	5	0.34
Purple Swamphen	180	7.01	White-eared Honeyeater	5	0.34
Little Raven	164	11.62	Black-shouldered Kite	4	0.51
Laughing Kookaburra	137	10.6	Australasian Pipit	4	0.34
Silvereye	127	5.13	Oriental Dollarbird	4	0.34
Blue-faced Honeyeater	116	7.35	Horsfield's Bronze-Cuckoo	4	0.17
Spotted Dove *	114	10.26	White-browed Scrubwren	4	0.17
Masked Lapwing	113	7.69	Great Egret	3	0.51
Rainbow Bee-eater	111	2.74	Little Black Cormorant	3	0.51
Red-browed Finch	111	2.74	Black-chinned Honeyeater	3	0.34
Long-billed Corella	103	4.96	Great Pied Cormorant	3	0.34
Grey Shrike-thrush	85	6.84	Jacky Winter	3	0.34
Crimson Rosella	84	4.96	Little Eagle	3	0.34
Striated Pardalote	82	6.5	Peregrine Falcon	3	0.34
Dusky Moorhen	80	4.44	Restless Flycatcher	3	0.34
White-winged Chough	79	2.05	Barn Owl	2	0.34
Australian King-Parrot	73	5.98	Black Falcon (VU)	2	0.34
Noisy Friarbird	60	3.59	Blue-billed Duck (En)	2	0.34
Straw-necked Ibis	60	1.88	Eastern Shrike-tit	2	0.34
Musk Lorikeet	51	2.39	Glossy Ibis (NT)	2	0.34
Eurasian Coot	49	2.39	Great Cormorant	2	0.34
Grey Teal	46	1.37	Little Egret (En)	2	0.34
Australian Pelican	45	3.76	Nankeen Kestrel	2	0.34

Dusky Woodswallow	40	2.05	Australasian Darter	2	0.17
Zebra Finch	40	1.88	Chestnut Teal	2	0.17
European Goldfinch *	37	2.22	Freckled Duck (En)	2	0.17
Sacred Kingfisher	35	2.39	Olive-backed Oriole	2	0.17
Rock Dove *	35	1.71	Red-capped Robin	2	0.17
Black-faced Cuckoo-shrike	34	2.39	Silver Gull	2	0.17
Domestic Duck *	33	3.42	Swamp Harrier	2	0.17
Yellow-faced Honeyeater	33	2.05	White-browed Babbler	2	0.17
Yellow Thornbill	29	1.37	Australian Shelduck	1	0.17
White-breasted Woodswallow	29	0.85	Black Kite	1	0.17
Grey Fantail	22	2.05	Brolga (VU)	1	0.17
Brown Treecreeper (NT)	20	1.37	Brown Quail	1	0.17
Yellow-rumped Thornbill	20	1.03	Buff-rumped Thornbill	1	0.17
Brown-headed Honeyeater	20	0.68	Eastern Yellow Robin	1	0.17
Black Swan	19	1.37	Eurasian Skylark *	1	0.17
Brown Songlark	18	1.37	Golden-headed Cisticola	1	0.17
Rufous Whistler	17	1.88	Grey-crowned Babbler (En)	1	0.17
Tawny Frogmouth	17	1.54	Hardhead (VU)	1	0.17
Whistling Kite	17	0.68	Hooded Robin (NT)	1	0.17
White-necked Heron	16	0.85	Intermediate Egret (En)	1	0.17
Little Pied Cormorant	15	1.54	Little Lorikeet	1	0.17
Superb Parrot (En)	15	0.17	Royal Spoonbill (NT)	1	0.17
Pied Butcherbird	14	1.03	Shining Bronze-Cuckoo	1	0.17
Rufous Songlark	14	0.68	Square-tailed Kite (VU)	1	0.17
Brown Thornbill	14	0.34	Striated Thornbill	1	0.17
White-faced Heron	13	1.88	White-bellied Cuckoo-shrike	1	0.17
Little Friarbird	11	0.85	White-bellied Sea-Eagle (VU)	1	0.17
Tree Martin	11	0.34	White-fronted Chat	1	0.17
Grey Butcherbird	10	1.2	Yellow-billed Spoonbill	1	0.17

Survey Distribution

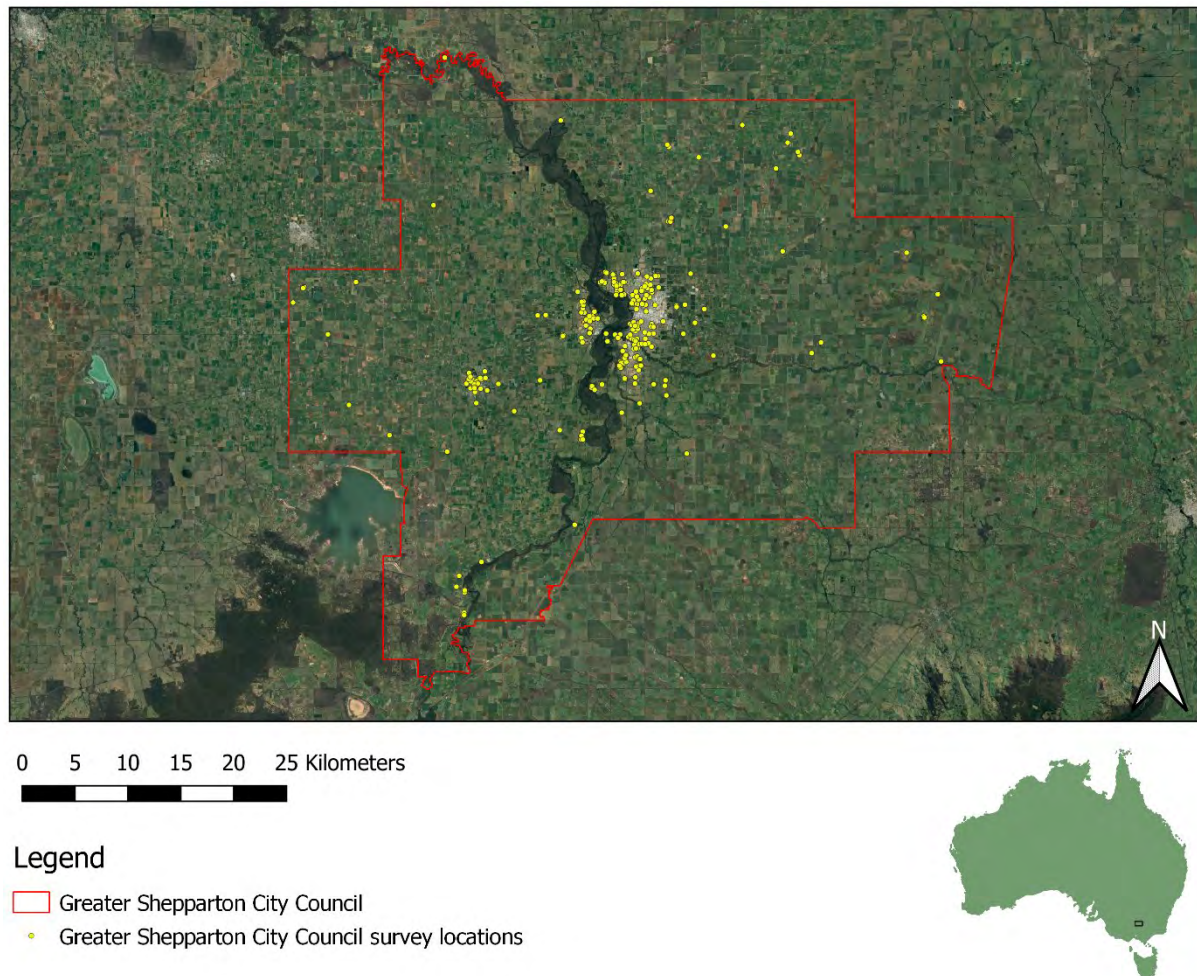


Figure 1: Bird observations recorded within Greater Shepparton City Council boundaries during the 2021 Aussie Backyard Bird Count. Bird observations that were recorded in a single survey overlap due to having the same GPS coordinates, so each yellow circle represents a single complete survey.

Least Common Species

The least commonly observed bird species recorded within the Greater Shepparton City Council boundaries all corresponded to one single survey observation and included:

- Australasian Darter
- Australian Shelduck
- Black Kite
- Brolga (VU)
- Brown Quail
- Budgerigar
- Buff-rumped Thornbill
- Chestnut Teal
- Eastern Yellow Robin
- Eurasian Skylark *
- Freckled Duck (En)
- Golden-headed Cisticola
- Grey-crowned Babbler (En)
- Grey Currawong
- Hardhead (VU)
- Hooded Robin (NT)
- Horsfield's Bronze-Cuckoo
- Intermediate Egret (En)
- Little Lorikeet
- Olive-backed Oriole
- Red-capped Robin
- Royal Spoonbill (NT)
- Shining Bronze-Cuckoo
- Silver Gull
- Square-tailed Kite (VU)
- Striated Thornbill
- Superb Parrot (En)
- Swamp Harrier
- White-bellied Cuckoo-shrike
- White-bellied Sea-Eagle (VU)
- White-browed Babbler
- White-browed Scrubwren
- White-fronted Chat
- Yellow-billed Spoonbill

All but one of the **34** bird species reported only once are native to Australia. The Eurasian Skylark is an introduced songbird from Eurasia. **Ten** of the 33 native species are classified as threatened in the state of Victoria, with the Freckled Duck, Grey-crowned Babbler, Intermediate Egret, and Superb Parrot all classified as Endangered. Four of the 33 native species are raptors, and 12 are associated with aquatic habitats such as rivers, lakes, and wetlands. Most of the remaining species are typically restricted to intact woodlands and forests which are scarce within council boundaries or are found in habitats that are absent or marginal in the Greater Shepparton region (e.g., semi-arid woodlands and wet forest). The behaviours and habitat requirements of these species may account for the lack of reports during Bird Week, especially if most surveys occurred in people's backyards.

Most Common Species

Seven of the ten most abundant bird species recorded within the Greater Shepparton City Council boundaries are native to Victoria. House Sparrow (1st), Common Starling (5th) and Common Blackbird (8th) are all introduced. The top ten bird abundances ranged from 688 to 2,486 individual birds (Figure 2). All seven native species are considered to have secure populations in Victoria.

The most *counted* species, the House Sparrow, was both the sixth-most counted in the state and country. The second-most counted species, the Australian Magpie was the second-most counted in

the state and third-most counted nationally. The third-most abundant species, the Red Wattlebird, was the fourth-most counted species in the state and eighth-most counted nationally. The Rainbow Lorikeet was ranked only 18th, whereas it was the number one counted bird for the state and country, and the Noisy Miner which placed third for the state and second nationally did not place in the top 10 for the Greater Shepparton region. However, all of the species in the Top 10 for the council ranked highly in the state counts, reflecting the relative similarity of Shepparton parks and gardens to those in other Victorian urban centres.

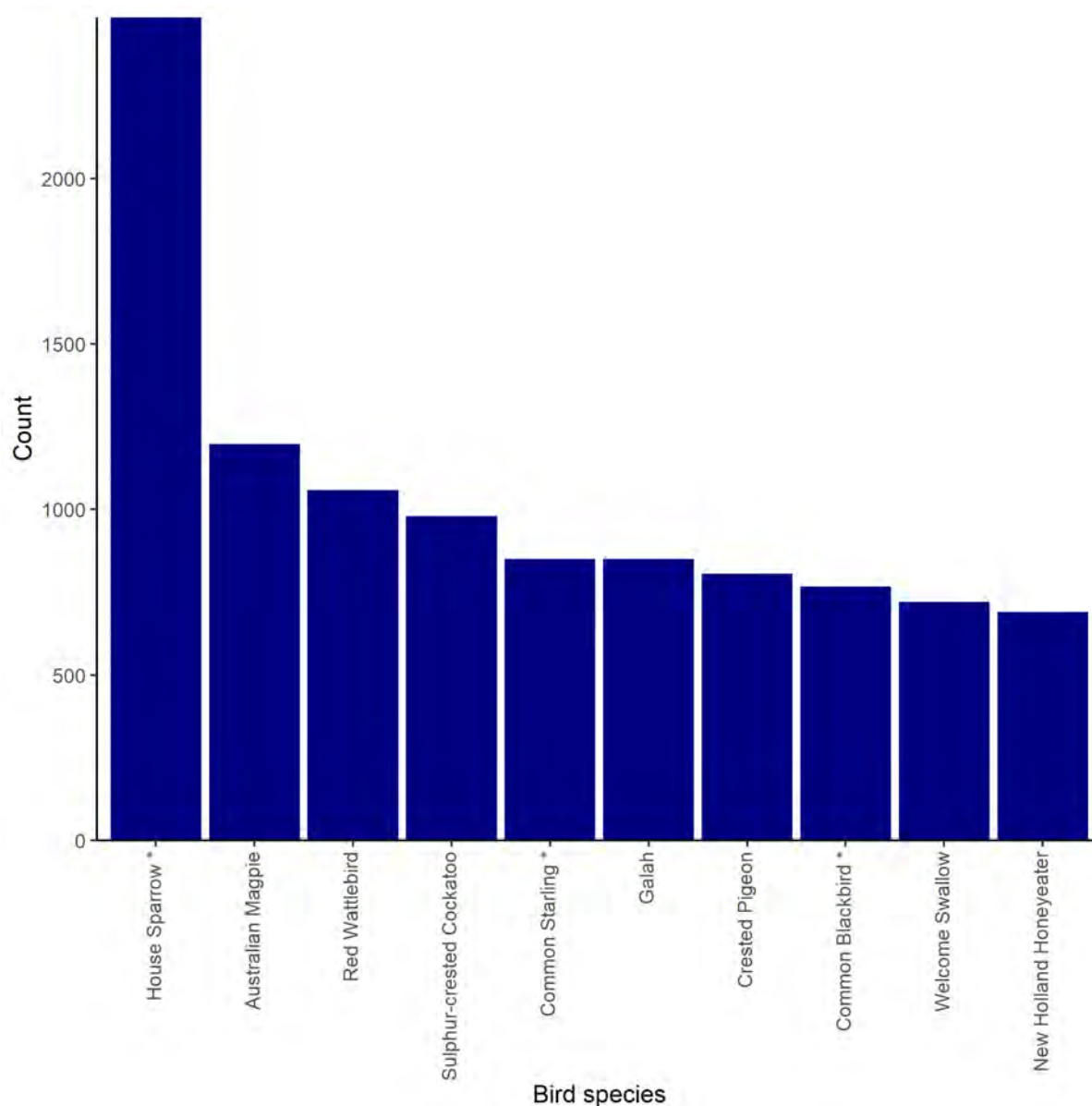


Figure 2: The ten most abundant bird species within the Greater Shepparton City Council boundaries during the 2021 Aussie Backyard Bird Count.

All of the ten most frequently *reported* species within Greater Shepparton City Council boundaries were reported at higher rates than the state and national averages (Figure 3). The House Sparrow placed considerably higher than both the state and nation-wide averages. House Sparrow feed on grains and seeds, making the species particularly well-suited to the agricultural landscapes that make up a considerably large portion of the Greater Shepparton City Council. Crested Pigeon, Galah, New Holland Honeyeater, and Willie Wagtail were all reported at particularly high rates. The Crested Pigeon and Galah are also native to habitats with widely spaced trees and little undergrowth, conditions seen commonly in cleared agricultural land.

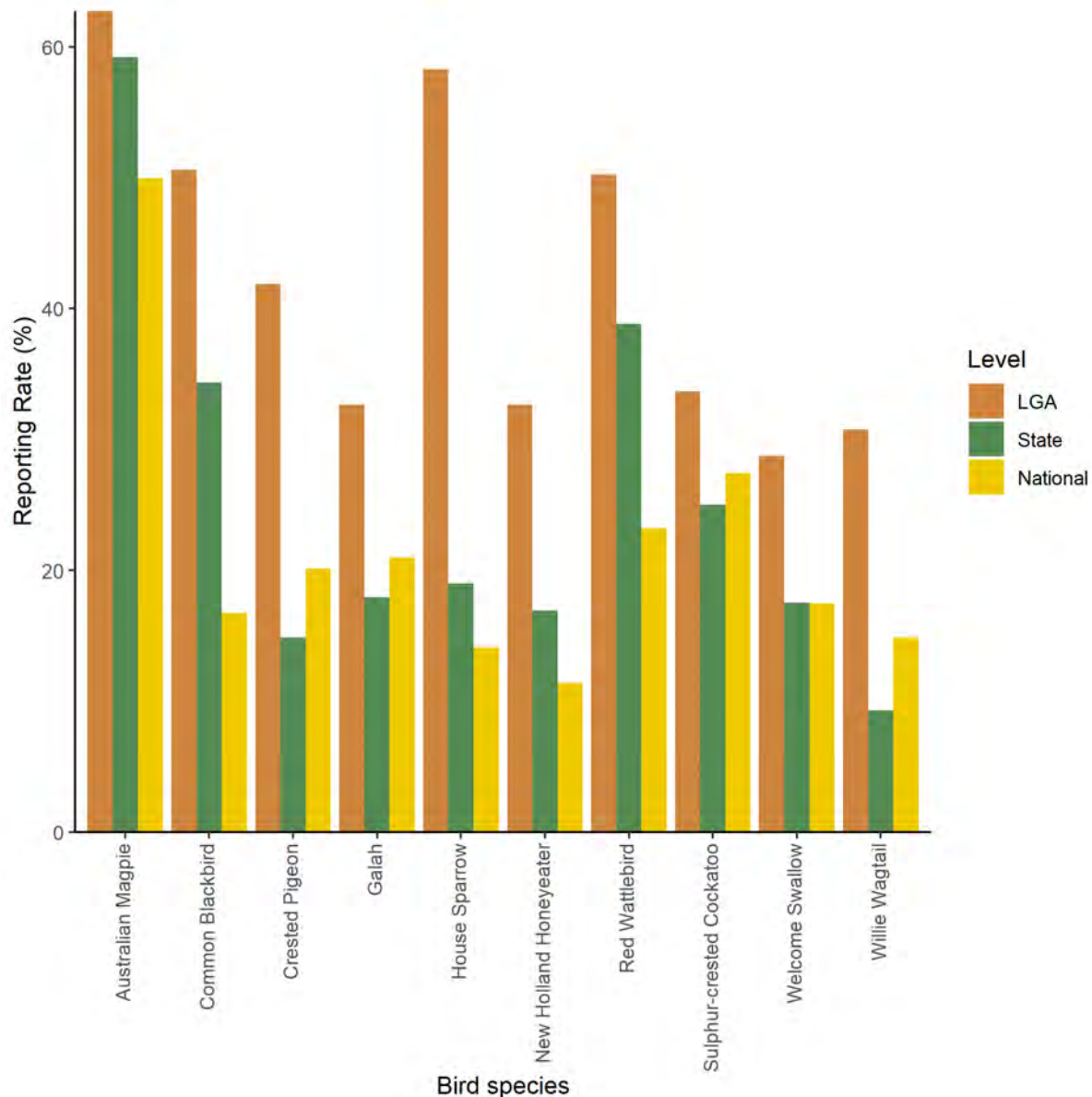


Figure 3: Comparison of the reporting rates (%) of the ten most frequently recorded species during the 2021 Aussie Backyard Bird Count within the Greater Shepparton City Council boundaries, with Victorian and national reporting rates.

Introduced Species

Twelve introduced bird species were recorded within the council boundaries during the 2021 Aussie Backyard Bird Count (Table 2, Figure 4). However, the Domestic Duck is a descendant from the Northern Mallard and is not truly a distinct species. Introduced species were clustered around areas in urban Shepparton itself, with scattered records further afield (Figure 4); however, it should be noted that fewer surveys were submitted from areas peripheral to the town centre, and the distributions likely reflect this survey bias.

The House Sparrow (13.42 %), Common Starling (4.57 %), and Common Blackbird (4.12 %) were the introduced species reported in the highest proportion of surveys within the council boundaries, though Common Myna was also recorded in over 2 % of surveys. Figure 4 gives an overall indication of introduced species distribution across Greater Shepparton City Council, but individual species distributions are difficult to discern due to the overlap of records. Accordingly, the individual distribution maps for each introduced species have been provided in **Appendix 1**.

Table 2: Survey statistics for the introduced bird species recorded within Greater Shepparton City Council boundaries during the 2021 Aussie Backyard Bird Count.

Bird Species	Count	Proportion of total individuals (%)	Number of surveys detected in	Reporting rate (%)
House Sparrow	2486	13.42	341	58.29
Common Starling	846	4.57	122	20.85
Common Blackbird	764	4.12	296	50.6
Common Myna	458	2.47	127	21.71
Spotted Dove	114	0.62	60	10.26
European Goldfinch	37	0.2	13	2.22
Rock Dove	35	0.19	10	1.71
Domestic Duck	33	0.18	20	3.42
Eurasian Tree Sparrow	9	0.05	3	0.51
Muscovy Duck	6	0.03	6	1.03
Helmeted Guinea fowl	6	0.03	2	0.34
Eurasian Skylark	1	0.01	1	0.17

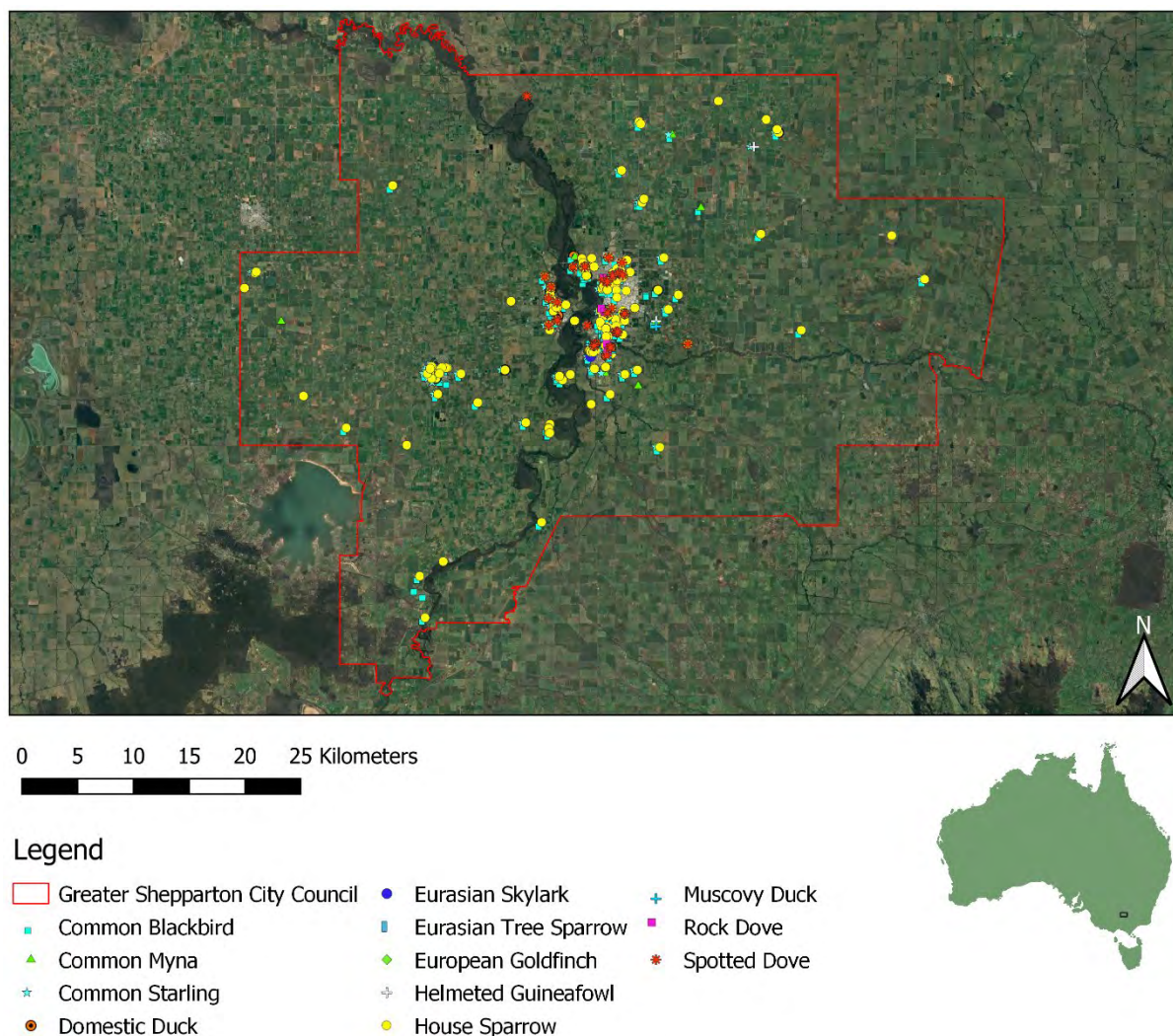


Figure 4: Distribution of the introduced bird species within the Greater Shepparton City Council boundaries during the 2021 Aussie Backyard Bird Count. Bird observations that were recorded in a single survey overlap due to having the same GPS co-ordinates.

Native Species of Management Concern

European colonisation has had a large impact on the conservation status of Australian birds. Approximately 234 species of Australian bird are now classified by the International Union for Conservation of Nature (IUCN) as Extinct, threatened with extinction, or Near Threatened (Garnett *et al*, 2011). It is critical that we gain an understanding of where these threatened species persist so that we can implement appropriate management actions in these areas. The Aussie Backyard Bird Count provides an opportunity for community members to participate in this important work.

In total, **17** species of bird listed as threatened were recorded within the council boundaries (Table 3, Figure 5). Azure Kingfisher and Brown treecreeper were recorded in over 1 % of surveys. Figure 5

gives an overall indication of threatened species distribution across Greater Shepparton City Council, but individual species distributions are difficult to discern due to the overlap of records. Accordingly, the individual distribution maps for each threatened species have been provided in **Appendix 2**.

Table 3: Threatened species recorded within Greater Shepparton City Council boundaries.

Bird Species	Status	Count	Number of surveys detected in	Reporting rate (%)
Black Falcon	VU	2	2	0.34
Brolga	VU	1	1	0.17
Hardhead	VU	1	1	0.17
Musk Duck	VU	8	3	0.51
Square-tailed Kite	VU	1	1	0.17
White-bellied Sea-Eagle	VU	1	1	0.17
Azure Kingfisher	NT	8	6	1.03
Brown Treecreeper	NT	20	8	1.37
Glossy Ibis	NT	2	2	0.34
Hooded Robin	NT	1	1	0.17
Royal Spoonbill	NT	1	1	0.17
Blue-billed Duck	EN	2	2	0.34
Freckled Duck	EN	2	1	0.17
Grey-crowned Babbler	EN	1	1	0.17
Intermediate Egret	EN	1	1	0.17
Little Egret	EN	2	2	0.34
Superb Parrot	EN	15	1	0.17

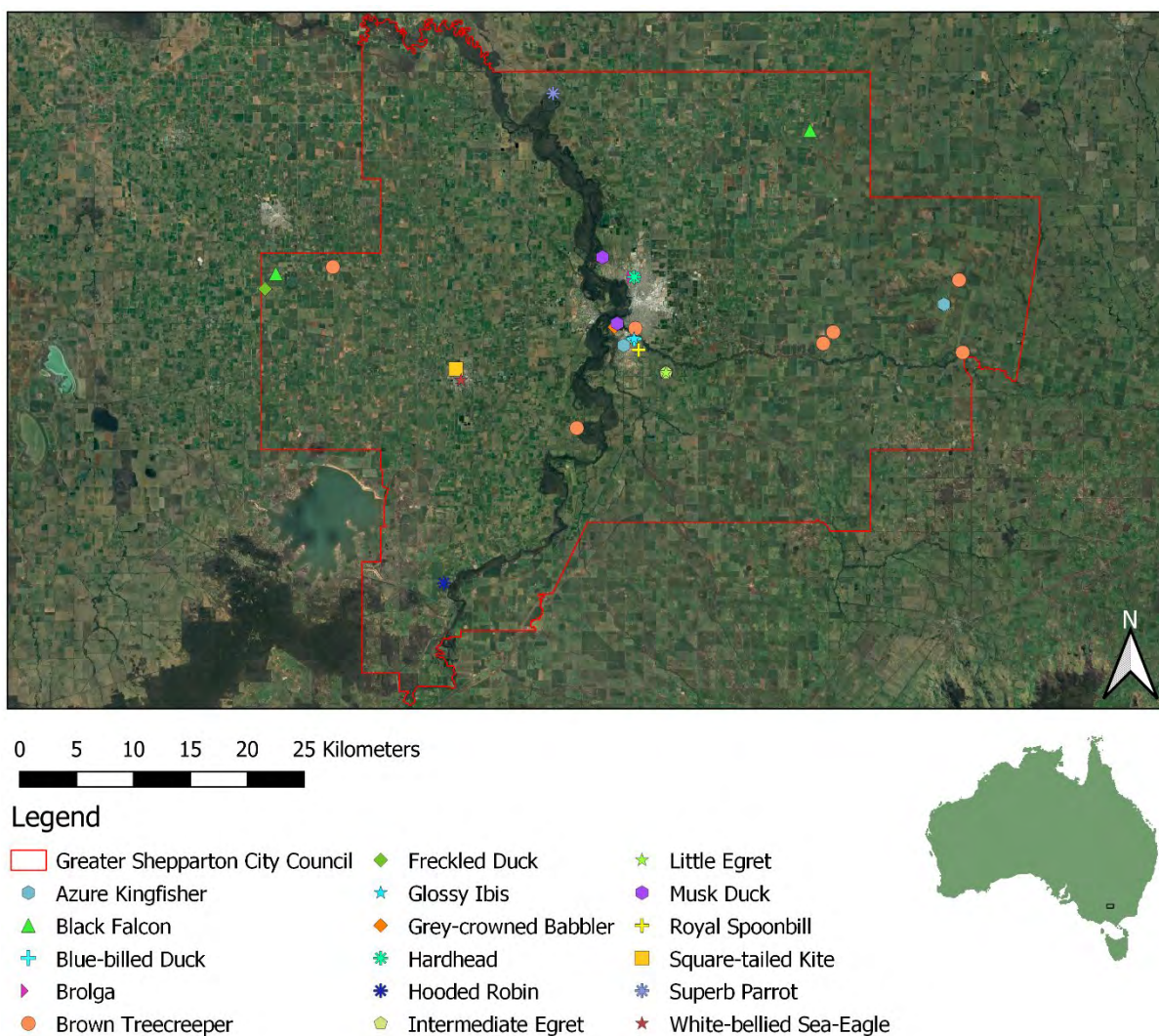


Figure 5: Distribution of the threatened bird species within the Greater Shepparton City Council boundaries during the 2021 Aussie Backyard Bird Count. Bird observations that were recorded in a single survey overlap due to having the same GPS co-ordinates.

Ten threatened waterbird species were recorded within the Greater Shepparton City Council boundaries in 2021:

- Brolga (Vulnerable)
- Hardhead (Vulnerable)
- Musk Duck (Vulnerable)
- Azure Kingfisher (Near Threatened)
- Glossy Ibis (Near Threatened)
- Royal Spoonbill (Near Threatened)
- Blue-billed Duck (Endangered)
- Freckled Duck (Endangered)
- Intermediate Egret (Endangered)
- Little Egret (Endangered)

Numerous Australian waterfowl and wetland-associated birds are threatened due to the continual loss and degradation of wetlands and natural waterways, through practices such as water diversion, river regulation, land clearing and changes in salinity (BirdLife Australia, 2015).

Three threatened raptor species were recorded within the Greater Shepparton City Council boundaries in 2021:

- Black Falcon (Vulnerable)
- Square-tailed Kite (Vulnerable)
- White-bellied Sea-Eagle (Vulnerable)

A number of Australian raptor species are threatened due to habitat destruction and fragmentation, loss of nesting hollows, declining prey availability, and the use of rodenticides.

Three threatened woodland-associated bird species were recorded within the Greater Shepparton City Council boundaries in 2021:

- Brown Treecreeper (Near Threatened)
- Hooded Robin (Near Threatened)
- Grey-crowned Babbler (Endangered)

Since European settlement, over 80% of Australia's temperate woodlands have been cleared, resulting in many woodland-dependent bird species experiencing population declines and being reclassified as threatened (BirdLife Australia, 2015). The temperate south-eastern regions of Australia have experienced the largest number of woodland species declines. In response to the documented declines in woodland bird species, BirdLife Australia has implemented the Woodland Birds for Biodiversity Project to enhance the conservation of declining and threatened woodland bird species. This project builds on the recovery efforts of the Critically Endangered Regent Honeyeater which has been the focus of long-term intensive recovery initiatives by BirdLife Australia and, due to its high profile, acts as a flagship species for the conservation of other threatened woodland birds. The Woodland Birds for Biodiversity Project aims to:

- Monitor habitat restoration activities and bird populations to determine priority habitat sites and population trends.

- Identify and monitor climate change impacts on woodland habitat and woodland-dependent bird species.
- Improve the management and protection of woodland habitat on private and public land.
- Restoration and revegetation of areas to improve the amount of available habitat and connectivity of this habitat.
- Community education and involvement in survey efforts and monitoring.

One threatened parrot species was recorded within the Greater Shepparton City Council boundaries in 2021:

- Superb Parrot (Endangered)

Numerous native parrot species are threatened in Australia, with each species facing its own set of conservation challenges. However, many parrot species are experiencing population declines due to the lack of reliable food access and suitable nesting sites, particularly mature tree hollows, which are essential for successful breeding. Habitat loss and modification is decreasing the number of suitably sized tree hollows available for threatened parrot species to nest in, and the hollows that do remain are subject to fierce competition. These hollows are often won and subsequently used by more aggressive bird species (e.g., Crimson Rosellas, Galahs, Rainbow Lorikeets and Common Starlings), European honeybees, and marsupials (BirdLife Australia, 2015).

Species-specific Results

Laughing Kookaburra

137 Laughing Kookaburra were counted within the council boundaries during the 2021 Aussie Backyard Bird Count, making them the 28th-most abundant species in the region. Laughing Kookaburra were recorded in over 60 surveys. Records were well spread across the region, with hotspots around areas with more substantial tree cover (particularly near and along the Goulburn River in the centre of the council).

The total count of Laughing Kookaburra was lower than last year's count, but higher than both 2018 and 2019 (Table 4). However, accounting for the number of surveys submitted, the reporting rate for the species is similar to the earlier years whilst decreasing considerably compared to the previous year (Table 4). The reporting rate for the species (10.6 %) was lower than the state (11.98 %) and national (16.18 %) averages.

Table 4: Species-specific statistics for the Laughing Kookaburra showing the total number of surveys conducted in the council, the total number of birds observed and the reporting rate of the species for the years 2018 – 2021 inclusive.

Laughing Kookaburra	2018	2019	2020	2021
Total surveys (all)	222	270	581	585
Bird Count	47	46	146	137
Reporting Rate (%)	9.01	10.74	14.11	10.6

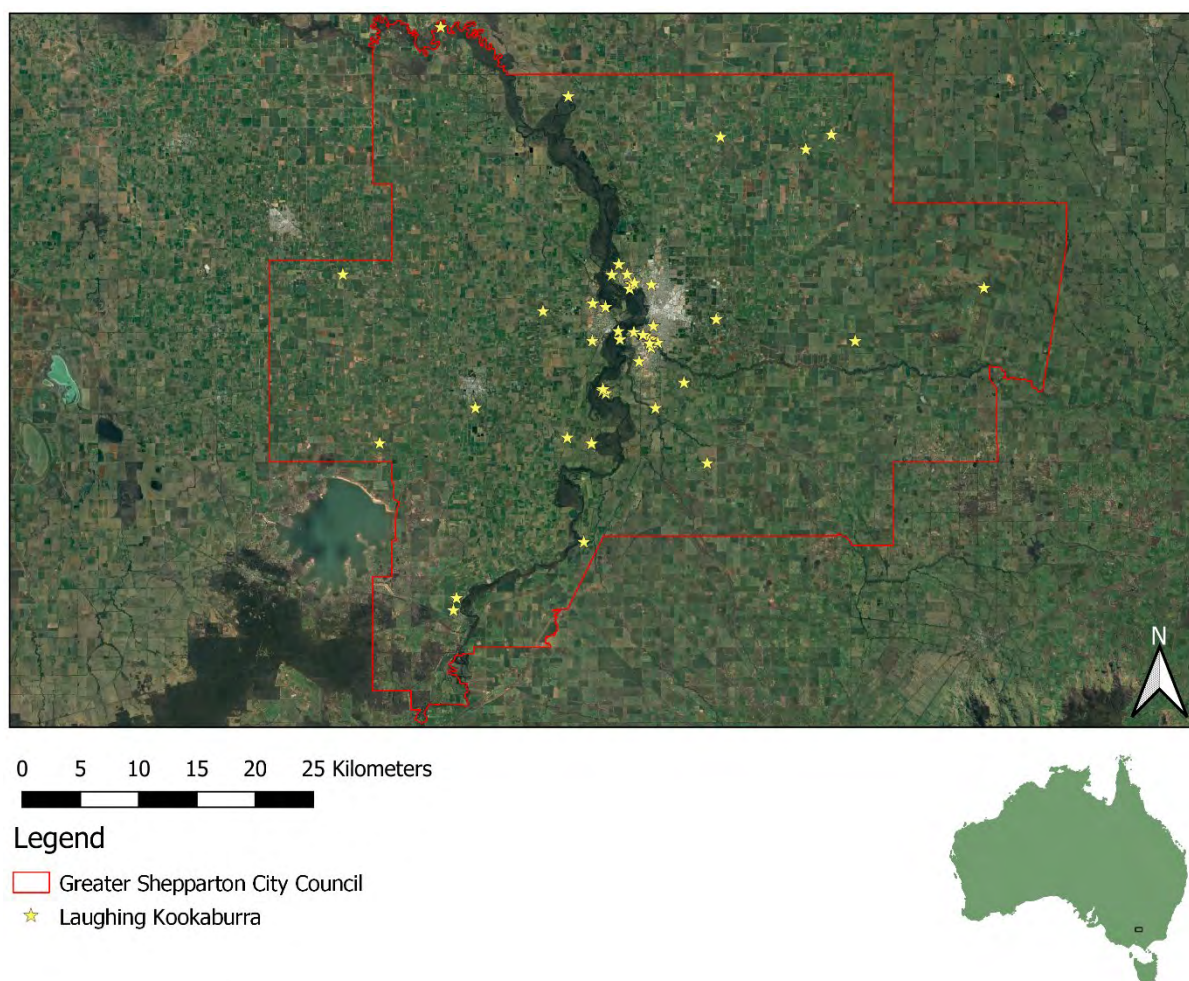


Figure 6: Distribution of Laughing Kookaburra within the council boundaries (red line) during the 2021 Aussie Backyard Bird Count. Bird observations from the same general area will overlap as they have the same, or similar, GPS coordinates.

Noisy Miner

460 Noisy Miner were counted within the council boundaries during the 2021 Aussie Backyard Bird Count, making them the 11th-most abundant species in the region. There were over 120 separate records of the species this year, with the majority of records coming from Shepparton and Tatura (Figure 7). There were fewer records in the council peripheries, even accounting for the lack of surveys in these areas. Caution should be taken when looking at year-to-year counts of Noisy Miner and Common Myna, as the two species are often confused for one another, and frequently co-occur.

The total number of Noisy Miner was slightly lower the previous year, both being approximately double those of 2018 and 2019 (Table 5), although these differences can largely be attributed to the increase in participation rather than a doubling of the birds present in the area. However, the reporting rate in 2021 (22.05 %) was considerably lower than 2020 (27.37 %), being more similar to the rate in 2019. The 2021 council reporting rates were much lower than the state (30.89 %) and national (35.75 %) reporting rates.

Table 5: Species-specific statistics for the Noisy Miner showing the total number of surveys conducted in the council, the total number of birds observed and the reporting rate of the species for the years 2018 – 2021 inclusive.

Noisy Miner	2018	2019	2020	2021
Total surveys (all)	222	270	581	585
Bird Count	159	254	549	460
Reporting Rate (%)	16.22	22.96	27.37	22.05

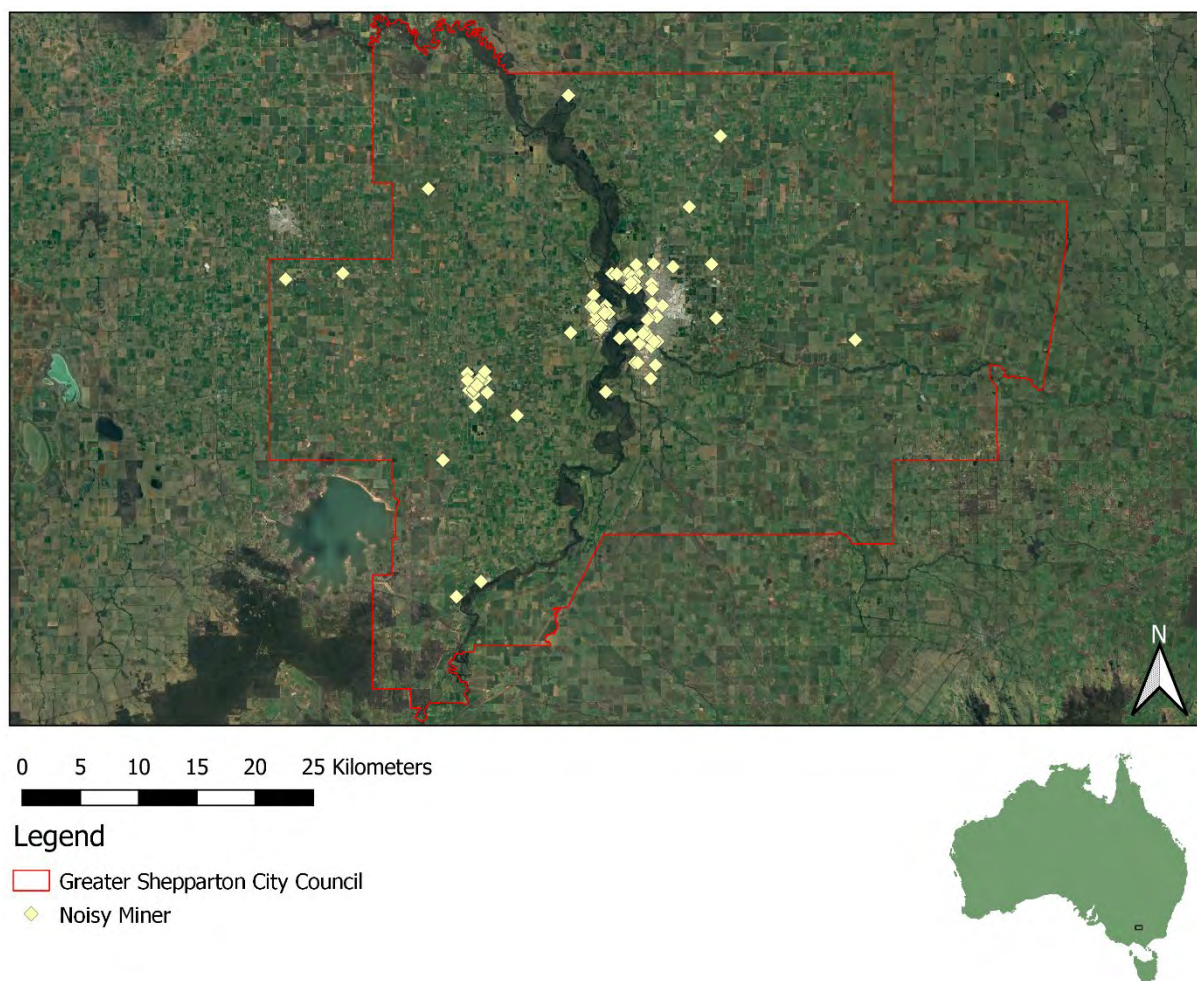


Figure 7: Distribution of Noisy Miner within the council boundaries (red line) during the 2021 Aussie Backyard Bird Count. Bird observations from the same general area will overlap as they have the same, or similar, GPS coordinates.

Superb Fairy-wren

460 Superb Fairy-wren were counted within the council boundaries during the 2021 Aussie Backyard Bird Count, making them the 16th-most abundant species in the region. There were over 100 separate records of the species this year, occurring across the council region in most areas where surveys were submitted (Figures 1 & 8). Notably, records were scarce from the urbanised central areas of Shepparton, likely reflecting the dependence of this species on dense undergrowth, which is lacking in most urban and residential areas.

The total count of Superb Fairy-wren was almost half the count in the previous year, despite having similar survey numbers (Table 6). The 2021 reporting rate of 18.97 % was also substantially lower than all other years, the closest being in 2018 with a reporting rate of 28.89 %. However, the 2021 reporting rate for the Greater Shepparton City Council was still higher than both the state (16.19 %) and national (13.12 %) values, suggesting that this species is persisting in the region despite substantial habitat fragmentation.

Table 6: Species-specific statistics for the Superb Fairy-wren showing the total number of surveys conducted in the council, the total number of birds observed and the reporting rate of the species for the years 2018 – 2021 inclusive.

Superb Fairy-wren	2018	2019	2020	2021
Total surveys (all)	222	270	581	585
Bird Count	256	340	657	378
Reporting Rate (%)	31.53	28.89	25.65	18.97

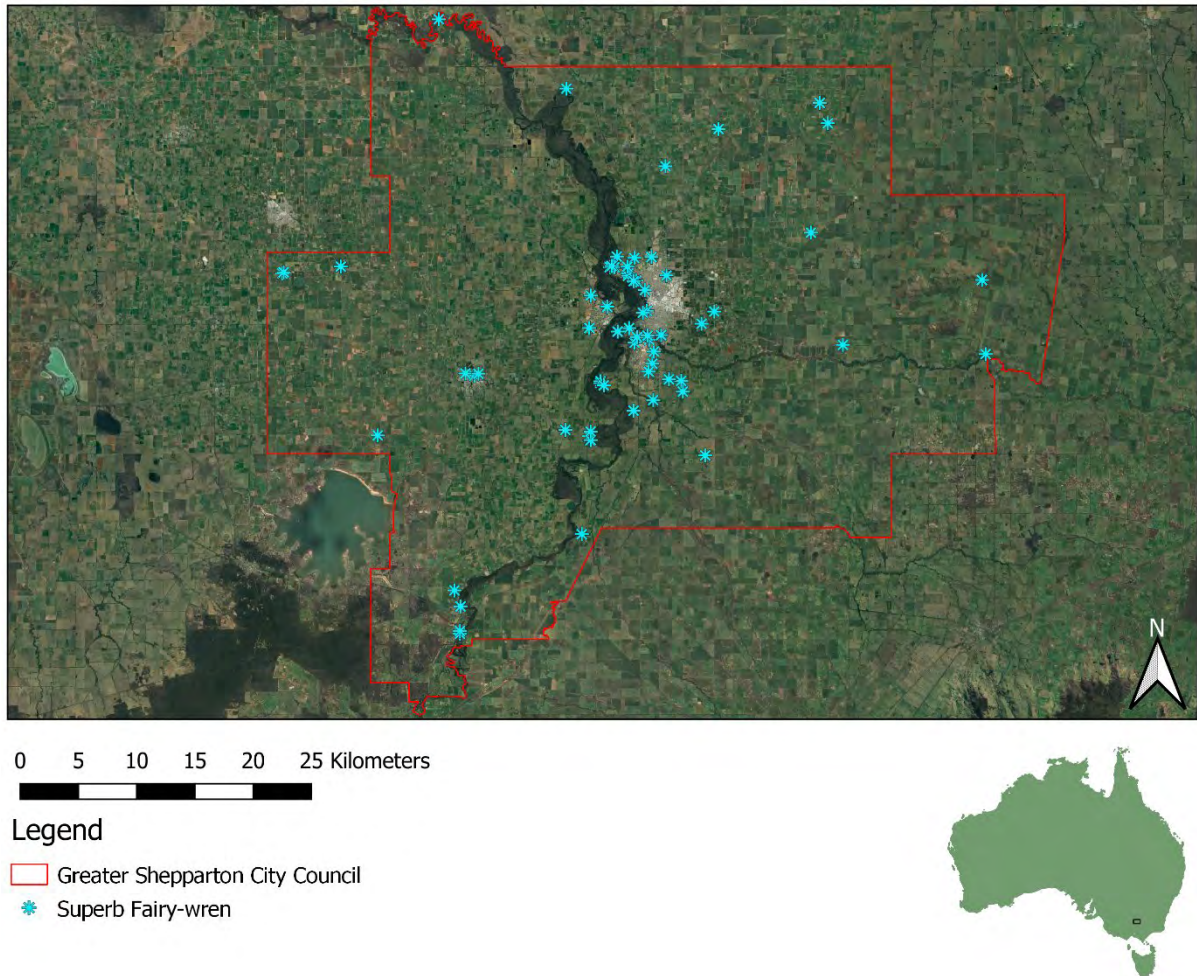


Figure 8: Distribution of Superb Fairy-wren within the council boundaries (red line) during the 2021 Aussie Backyard Bird Count. Bird observations from the same general area will overlap as they have the same, or similar, GPS coordinates.

Data Limitations

An annual backyard bird survey occurring in gardens across Australia has the potential to be an extremely valuable monitoring tool for Australian bird species and communities. Over years, data collected from regions can be used to detect population trends for target species (both native and introduced), for different species guilds and for bird communities within specific areas. For example, detection of regional and/or national changes in the abundance and distribution of species especially those of management concern, such as downward trends of native species, or upward trends of pest species. Subsequent management actions can therefore be implemented in response to the survey results.

However, some caution must be taken when interpreting the results from such a survey. The backyards that are surveyed will not constitute a random selection of backyards across Australia. Previous analyses of surveys of a similar nature have suggested that participants are more likely to be interested in birds and have more 'bird-friendly' gardens than the country as a whole (Dunn et al., 2005; Spurr, 2012). If this is correct, the number of birds reported from surveyed backyards could be higher than the average number present within a typical Australian backyard. Additionally, bird species that are more likely to utilise habitat associated with backyard gardens are more likely to be recorded, thus represented, in the dataset than species that are specialised to other habitat types such as forests or water bodies. The lack of presence of these species within the dataset does not imply low abundance or scarce distribution but rather their specific habitat was not represented in the survey.

The number of counted birds may also be over-inflated due to the potential for observers to count the same bird/s multiple times during their 20-minute survey period. Furthermore, some regions may have small sample sizes, with some areas being under-represented (or not represented at all) which will influence data interpretation and population trends within an area and across the country. Survey results are also subject to temporal biases and only provide information of bird communities within a one-week period during spring. Hence, the Aussie Backyard Bird Count survey can be said to monitor population and distribution trends within the backyards of participants during the particular time period but results may not necessarily be applicable to Australia as a whole, or to the entire region specifically being analysed.



Furthermore, the GPS co-ordinates of surveys may not be completely accurate due to numerous factors. User error may occur when selecting their location through the app, as the placement of the survey flag may not precisely fall on their true location. However, the submitted co-ordinates will provide the general location where the survey occurred. Excluding user error, the accuracy of the GPS coordinates should fall within 5-50 metres as the app waits for up to 20 seconds to obtain an accurate GPS fix. If a GPS fix can't be found within this time, less accurate coordinates may be recorded. Being indoors, near tall buildings and heavy cloud cover can all lead to obtaining a poor GPS fix, or no GPS at all. Having Wi-Fi on and being near a Wi-Fi hotspot can give a fast, accurate result in most cases, but occasionally this can also result in a wildly inaccurate point in the case of a moving Wi-Fi hotspot. Most of the time this is not a problem or will be picked up by the user when they are looking at the map. If the app can't get a GPS fix and can't use Wi-Fi then it will fall back to using mobile towers, which can reduce accuracy to 1 km or even worse. The accuracy when submitting surveys on the website is much less predictable than the app. Most computers do not have a GPS so it has to rely on either Wi-Fi or the IP address. Wi-Fi can be quite accurate, but IP address-based locations are very rough – it basically just identifies which city you live in. If you are in a rural area sometimes it will just put you in the nearest major city/centre.

The skill and experience of observers conducting backyard surveys in correctly identifying birds will vary and also influence the validity of the survey results. The Aussie Backyard Bird Count app provided the first instance of minimising incorrect species identifications by clearly indicating to the user if a species that they had selected to include on their checklist was “unlikely based on survey location”. Once the survey data was collected in the BirdLife Australia office, data was further vetted based on species distribution information. While every effort was undertaken to vet the survey data of mis-identified birds, it is still probable that some misidentifications will be included in the dataset and caution is needed when analysing the results. However, a previous study has implied that identification of species occurring in participants' backyards are more likely to be correct as these species are familiar to the observer and are likely to be relatively common species (Cannon, 1999).

There's always more we can be doing to protect and encourage birds – which is why you're invited to get involved with some of our other programs.



Birds in Backyards

With over 90% of Australians living in urban and regional centres, for many people, the only place where they connect with the natural world is in their own backyards. The loss of urban bird diversity has both ecological and human/cultural consequences. The Birds in Backyards Program builds knowledge, skills and practical support to develop action-oriented responses to the decline of bird diversity.

Underpinned by bird monitoring and habitat assessments, the Birds in Backyards Program encourages people to take conservation action for birds wherever they enjoy them – home, school, work, or local parks and reserves. We want people taking action for birds, informed by their own data.

The ultimate goal of The Birds in Backyards Program is a diverse urban native bird community, achieved by behavioural change through action research, education for sustainability and advocacy. Local councils can partner with The Birds in Backyards Program to achieve education and conservation outcomes for our urban birds – let's get our communities taking action together!



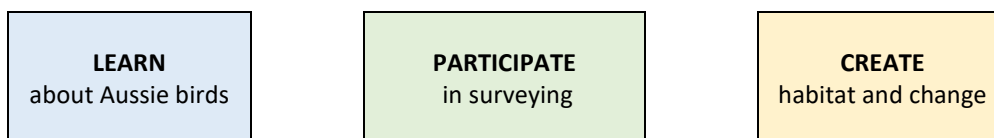
What Birds in Backyards Can Offer

We are fortunate in Australia to have such a diverse and colourful range of native birds that live amongst us in the urban landscape. These birds provide an opportunity for people to appreciate and connect with wildlife daily and increasingly, research is linking biodiversity with a person's quality of life. **In Britain, bird life is so valued that the UK government uses information about their wild birds as a measure of the health of the environment as a whole.** This environmental indicator is published alongside more familiar economic and social indicators and reinforces the point that the maintenance of biodiversity is a key part of sustainability.

But our urban bird communities in Australia are changing. Small birds, like spinebills and fairy-wrens, were once more common in parks or gardens are now disappearing and being replaced by large and aggressive species like the Noisy Miner and Pied Currawong. Changes in our gardening practices and increasing urbanisation seem to be largely responsible for this – the simplification of our gardens and the loss of shrubs has removed important food, shelter and nesting locations. If vegetation in gardens could be managed to promote a diversity of native bird species, it will provide a valuable secondary habitat for conserving native bird populations, particularly as natural habitat continues to be destroyed. In the urban landscape, engaging with the wider community is necessary in order to turn around this habitat loss and provides a unique opportunity to engage large numbers of the general community actively in the conservation of biodiversity.

Birds in Backyards encourages people to learn in their own space in order to establish an initial connection with the natural world in a somewhat unnatural setting. It is not simply about providing people with information about birds in their local area, but it is about building on that initial interest and encouraging people to learn more and then take action for birds.

Our program takes a three-pronged approach:



Birds in Backyards can work with your council to provide resources or collaborate on projects. For example:

- Hard copy materials such as A4 Backyard Birds of 2019 posters (that can be made available in 6 languages), bookmarks, bird trading cards, gardening advice brochures
- Train the Trainer workshops and associated materials or direct public workshops
- Ongoing monitoring programs for participants via our Backyard Bird surveys with feedback provided
- Children's engagement activities and school resources – ask us about our Birds in Schools programs. Options available from fully supported to teacher-delivered

For more information, please contact Urban Birds Program Manager Dr. Holly Parsons – holly.parsons@birdlife.org.au

Rodent poisons are killing birds – How your Council can help



While rodenticides are poisons designed to kill pest mice and rats, impact is much more far-reaching than just these pests. **Second generation anticoagulant rodenticides (SGAR) poisons in particular are the worst.**

SGARs work by causing internal bleeding, but when rats and mice eat baits poisoned with SGARs, they become poisonous themselves, harming, and even killing other animals and birds that eat them. Studies in Australia have found harmful, and often fatal levels of SGARs in dead birds of prey, including Southern Boobooks, Wedge-tailed Eagles, and Powerful Owls.

Evidence is also growing that suggests that rat poison is not only being eaten by the targeted rodents, but by reptiles (which have a very high tolerance), invertebrates and possums. This all means that **these poisons are moving far beyond the rodents they are targeting and impacting our native wildlife.**

These SGAR poisons have been restricted from public sale in parts of the US, Canada and European Union.

But Australian regulations lag behind and SGARs – including Talon, Fast Action RatSak, and The Big Cheese Fast Action brands – are available to purchase from supermarkets and hardware shops throughout Australia.

What can Local Government do?

With responsibility for the maintenance of numerous properties, local government can reduce the amount of these deadly poisons entering the environment by changing your pest control practices and informing your residents. A number of local government administrations across the country have already taken action to become 'Owl-friendly' regions.

You can take action in your local government area by:

- Specifying preferred rodenticide treatments in commercial pest operator contracts (See next page for alternatives)
- Investigating conditions that could be included to assist with rat control in demolition licences;
- Distributing information about the impacts of second-generation rodenticides on birds and other wildlife to your residents.

Change your pest control practices

Taking the lead and employing wildlife-friendly rodent control on all council-managed properties is the best way to demonstrate to your community that the council is committed to protecting wildlife from rat poisons. If poison baits are required, place requirements on pest control contractors to only use first generation rodenticide products or suggest other alternatives. Look for active ingredients that are less harmful such as Warfarin (RatSak Double-strength) and Coumatetralyl (Racumin) and use products in locked bait stations.

What are the alternatives to poison?

There are lots of ways to manage rat and mice that reduce the need for pest control interventions and don't involve poison. Local councils can provide information to businesses and residents on more responsible choices that will also meet local government health standards. In domestic settings, non-poison pest control – such as snap traps should be the first choice.

Property managers and residents can also be encouraged to:

- seal potential roof/wall cavity access points that rodents might be using
- pick up any fallen fruit,
- ensure excess pet food isn't accessible,
- rodent-proof chook pens and aviaries,
- replace rat-friendly palms with owl-friendly natives, and
- tidy up garden waste and limit access to compost heaps

Encouraging native predators also assists to reduce rodent populations. Tactics to do this include planting native trees, and installing nest boxes-for some birds of prey like Southern Boobooks to use as well as native prey like possums.

[You can see a list of rodenticide products available in Australia here.](#)

Would your Council like to become a Hero in our campaign?

We are encouraging local Councils to become 'Heroes' our campaign by taking the actions detailed above. For more information get in touch with us: conservation@birdlife.org.au



Birds in Schools



Birds in Schools is a free environmental education program designed by BirdLife Australia and its Urban Birds Program. Available online through BirdLife's e-learning platform, Birds in Schools enables teachers right across Australia to deliver education and action for local birds with support from BirdLife Australia.

Birds in Schools engages students in the scientific process through investigation and monitoring the birds and habitat of their school grounds. Students use their own observational skills and ideas to develop and implement an action plan to help their local bird life. Action plans may include planting native plants, installing nest boxes or bird baths, or delivering education campaigns in their school or local neighbourhood.

Birds in Schools offers students and teachers:

- The chance to become citizen scientists and actively participate in the scientific process.
- A valuable experience of connection with, and improved understanding of, the natural world.
- An opportunity to investigate real-life issues, reflect and problem solve and develop action-oriented responses to sustainability challenges.
- A supported, curriculum-linked teaching resource for Years 3 to 6, Stage 2-3, including lesson plans and resources, that builds students' knowledge and skills.
- A way to prioritise biodiversity within the school, with greener spaces improving the wellbeing of students too.
- The opportunity to collaborate and partner with the local school community and local council.



Lessons and support

Birds in Schools consists of 10 lessons for students from Years 3 to 6, through which students:

- Conduct bird and habitat surveys and contribute survey data to BirdLife's database, Birdata.
- Learn about local birds, biodiversity, and habitats.
- Analyse surveys and make recommendations based on their own research.
- Develop and implement an action plan to improve habitat for birds.

Support for teachers:

- Lesson plans and accompanying resources supporting teachers to deliver content.
- Assessment for students to easily measure learning.
- Online teacher professional development and online lessons for students.
- Support from a BirdLife staff member including assistance and advice.

How much time does it take?

The project is designed to allow schools flexibility of delivery. Schools can choose to deliver Birds in Schools over one term, two terms or more. There are 10 lessons with each lesson designed to fit into a 50 minute to hour-long session (although some activities will extend outside these times, particularly the action). The program is flexible and we encourage you to adapt it to meet your needs, for example, you do not have to deliver every lesson and we can assist with program adaptation if required.

Who teaches the students?

Teachers deliver the lessons and are provided with an online professional training session with Birdlife to develop the technical skills and knowledge required to deliver the program, including in bird identification, conducting surveys, using Birdata and what actions help birds. A BirdLife Australia staff member delivers online Q&A sessions for students and are available for assistance and advice to support teachers.

How much does it cost?

The program is free for schools to take part in. Schools may wish to secure grants or fundraise to enable the completion of action plans, such as planting native plants or installing nest boxes or bird baths.



Find out more

Website:

birdlife.org.au/projects/urban-birds/birds-in-schools-project

Email:

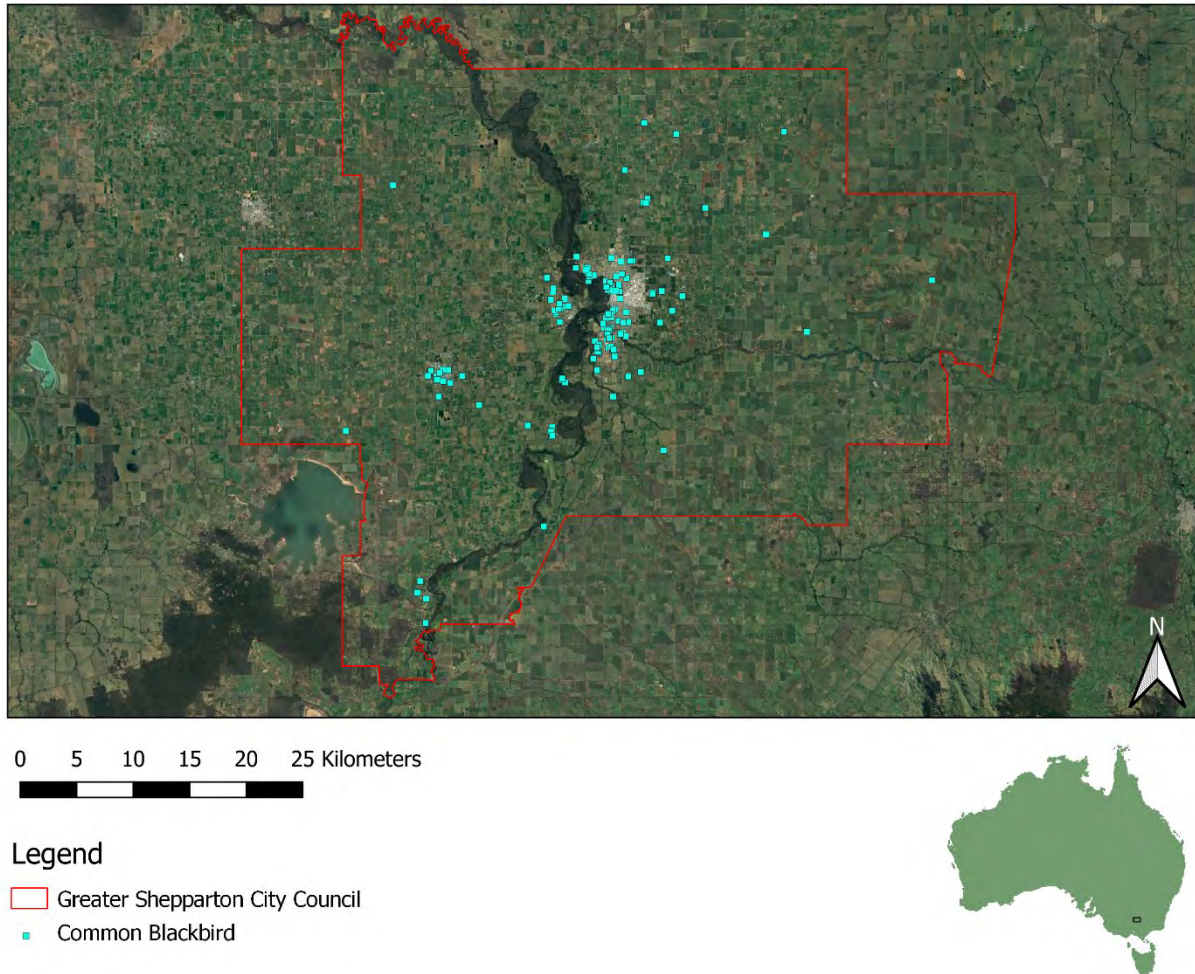
Alexandra Johnson,
Birds in Schools Project Officer
alexandra.johnson@birdlife.org.au

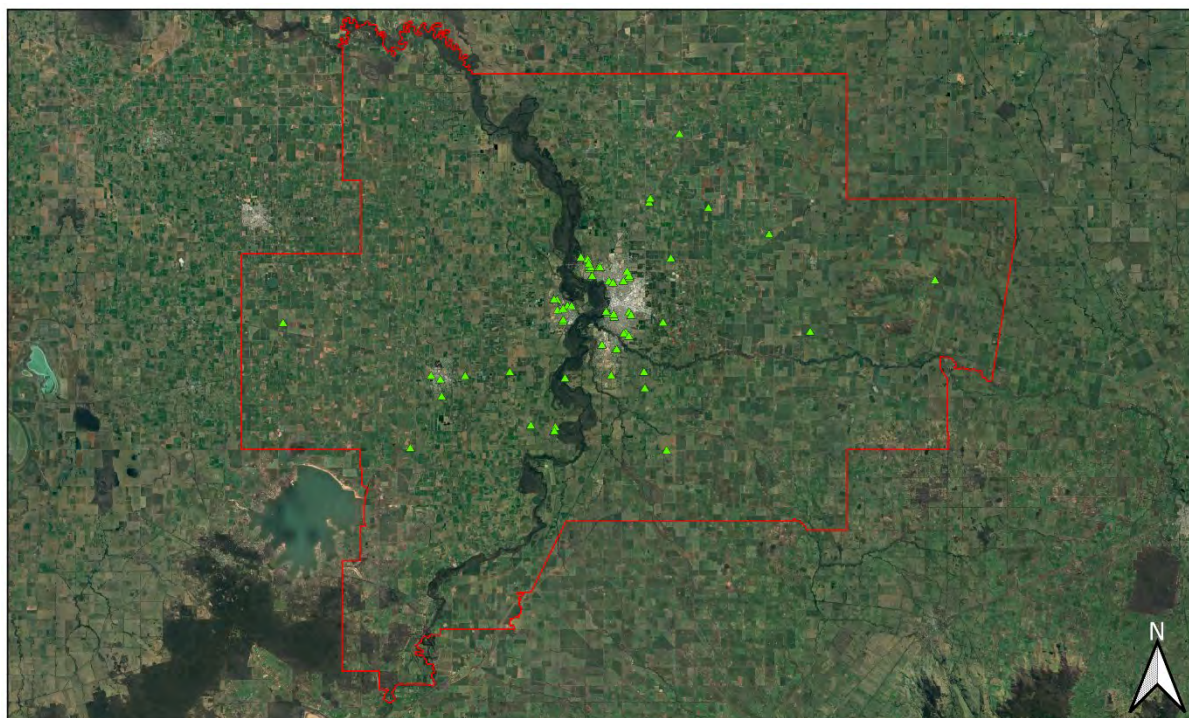
References

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Appendix One – Introduced Species Maps

The individual distribution maps for each introduced species recorded within council boundaries during the 2021 Aussie Backyard Bird Count, in alphabetical order, are presented in Appendix One. No figure captions have been provided, as the format is identical to that of Figure 4.





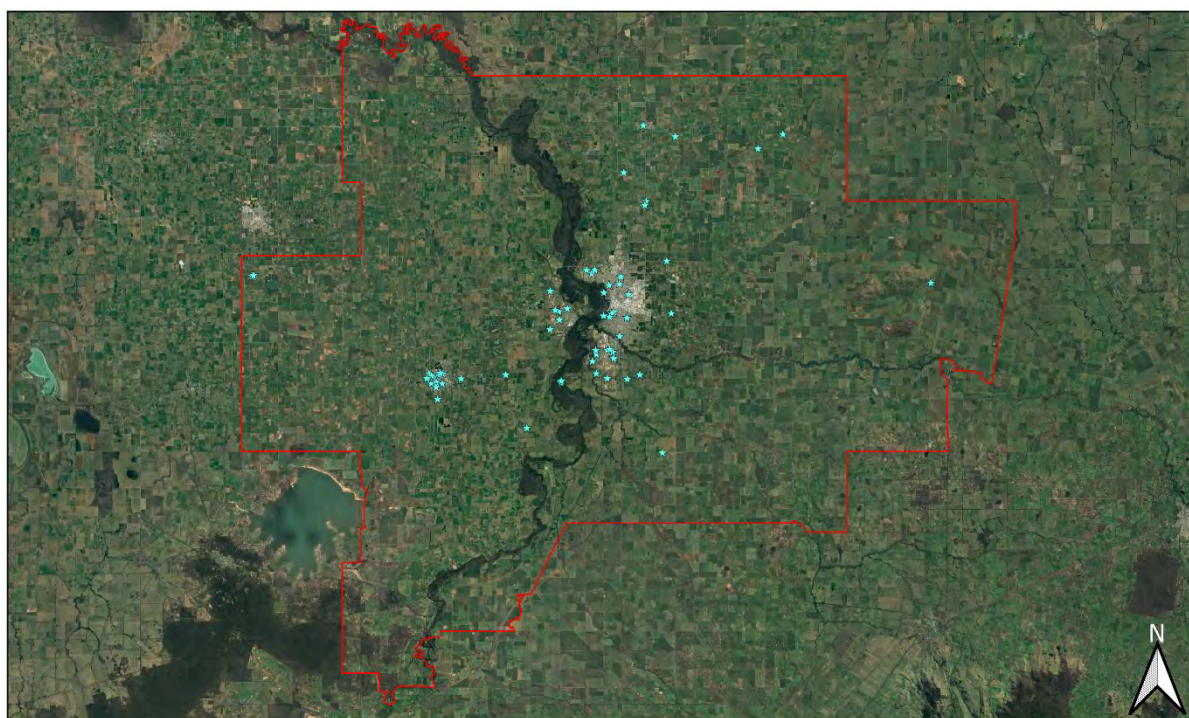
0 5 10 15 20 25 Kilometers



Legend

-  Greater Shepparton City Council
-  Common Myna





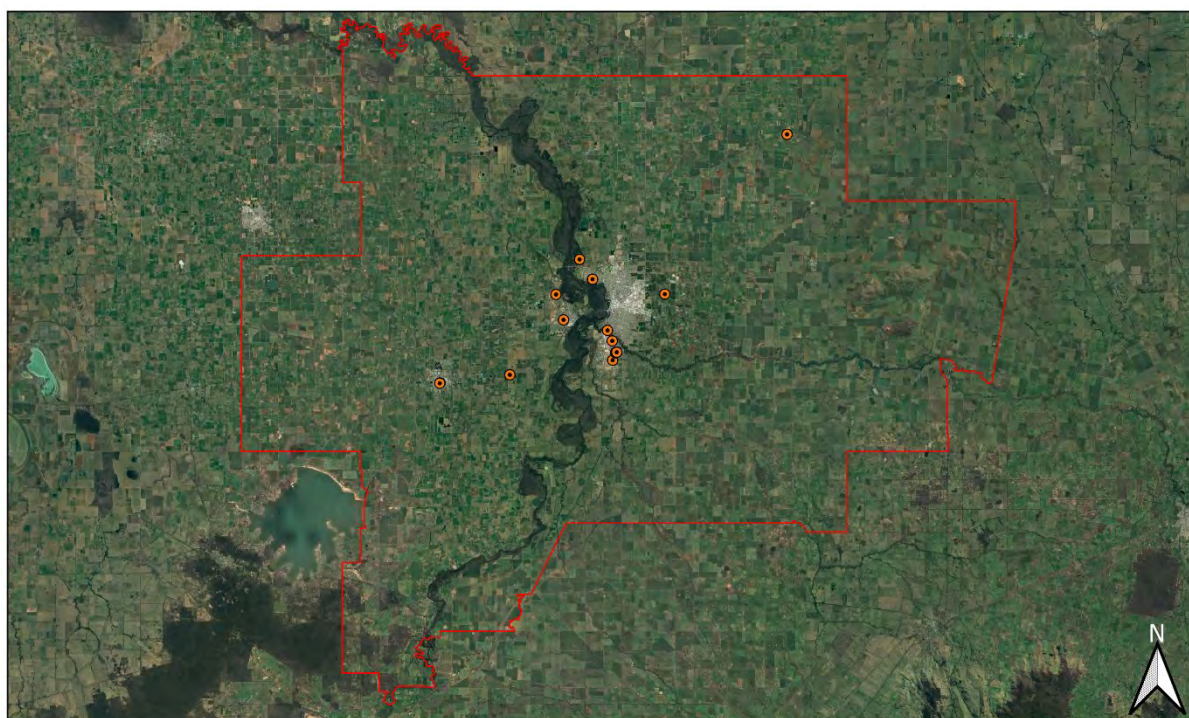
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Legend

- Greater Shepparton City Council
- ★ Common Starling





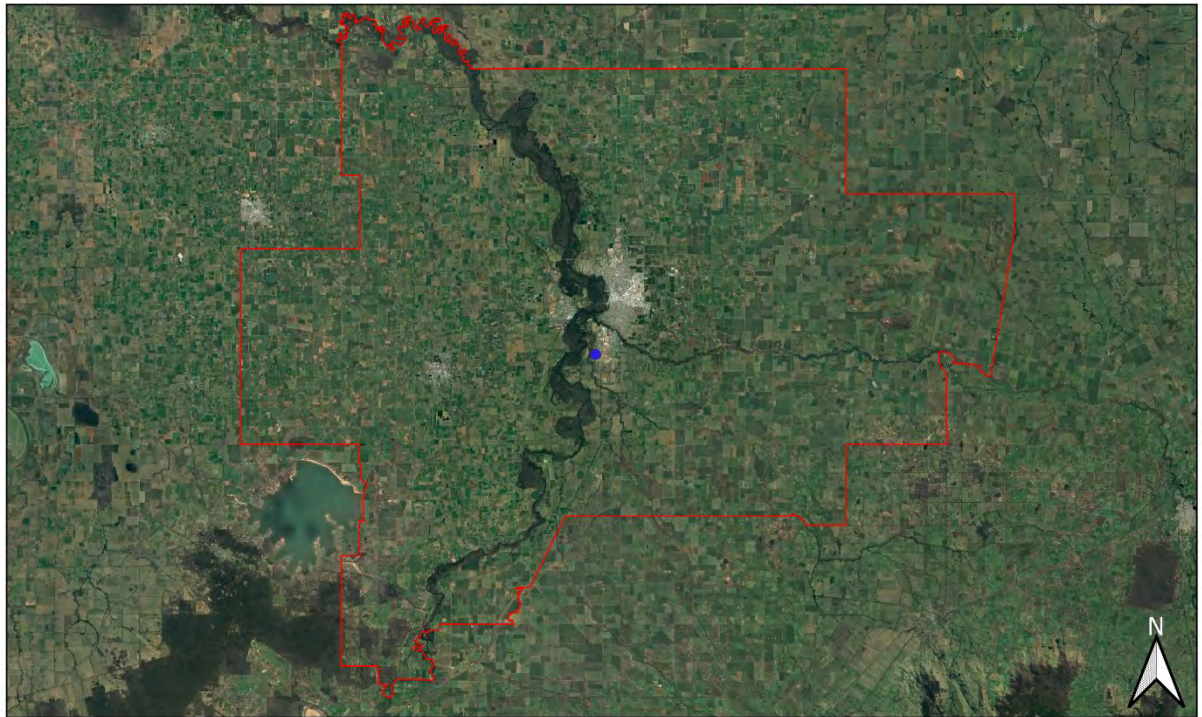
0 5 10 15 20 25 Kilometers



Legend

- Greater Shepparton City Council
- Domestic Duck



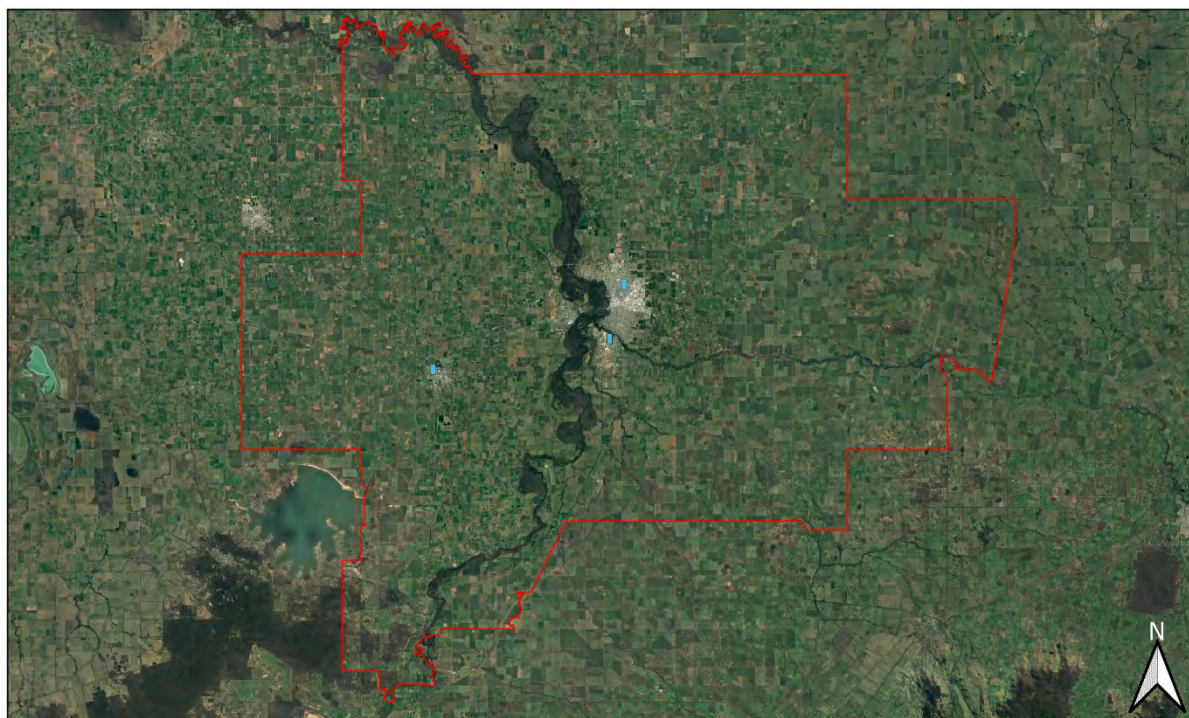


0 5 10 15 20 25 Kilometers

Legend

- Greater Shepparton City Council
- Eurasian Skylark





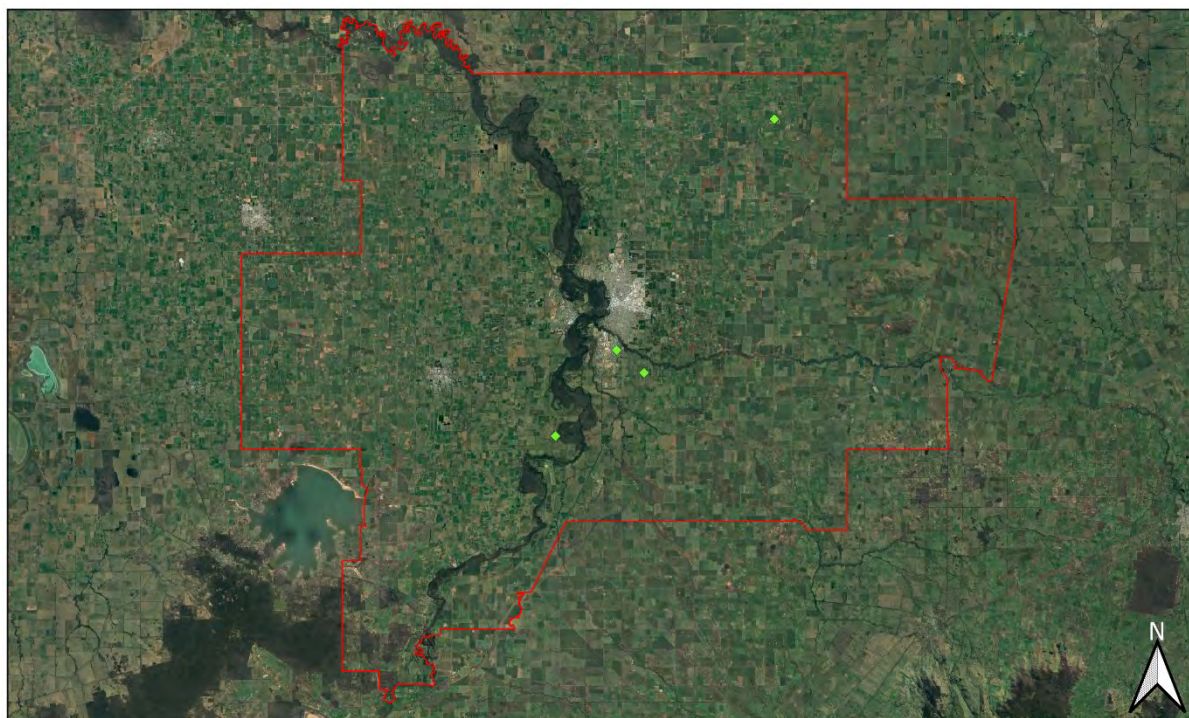
0 5 10 15 20 25 Kilometers



Legend

- Greater Shepparton City Council
- Eurasian Tree Sparrow





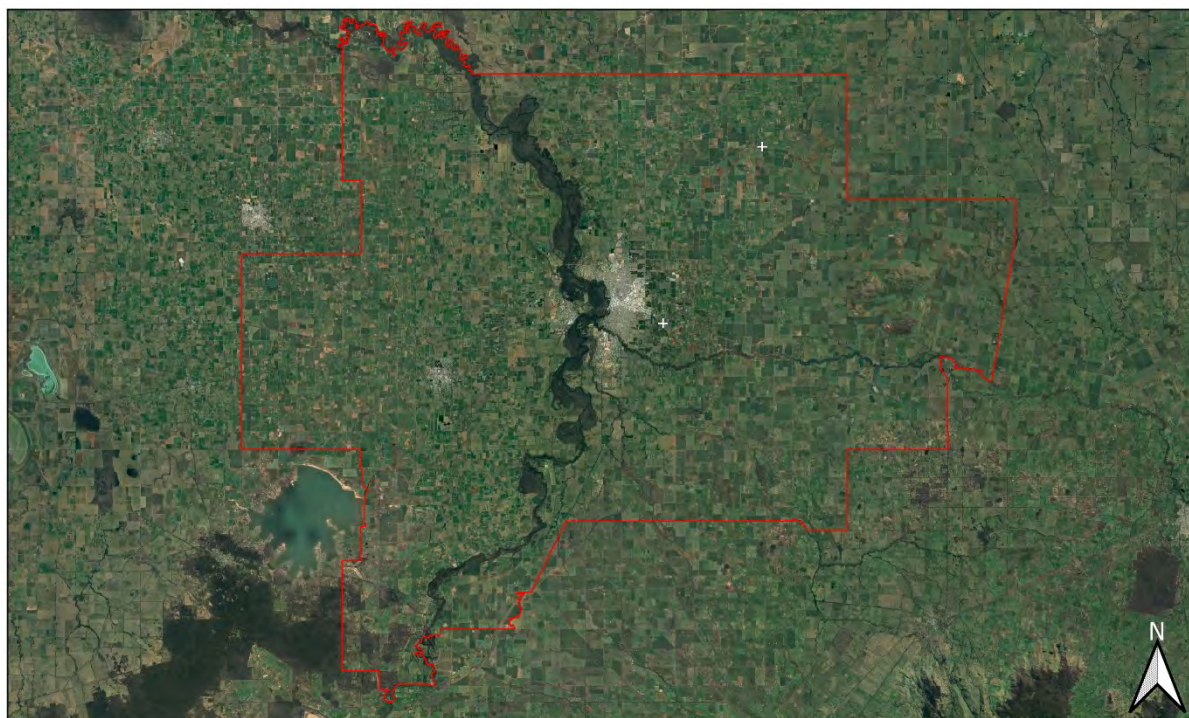
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Legend

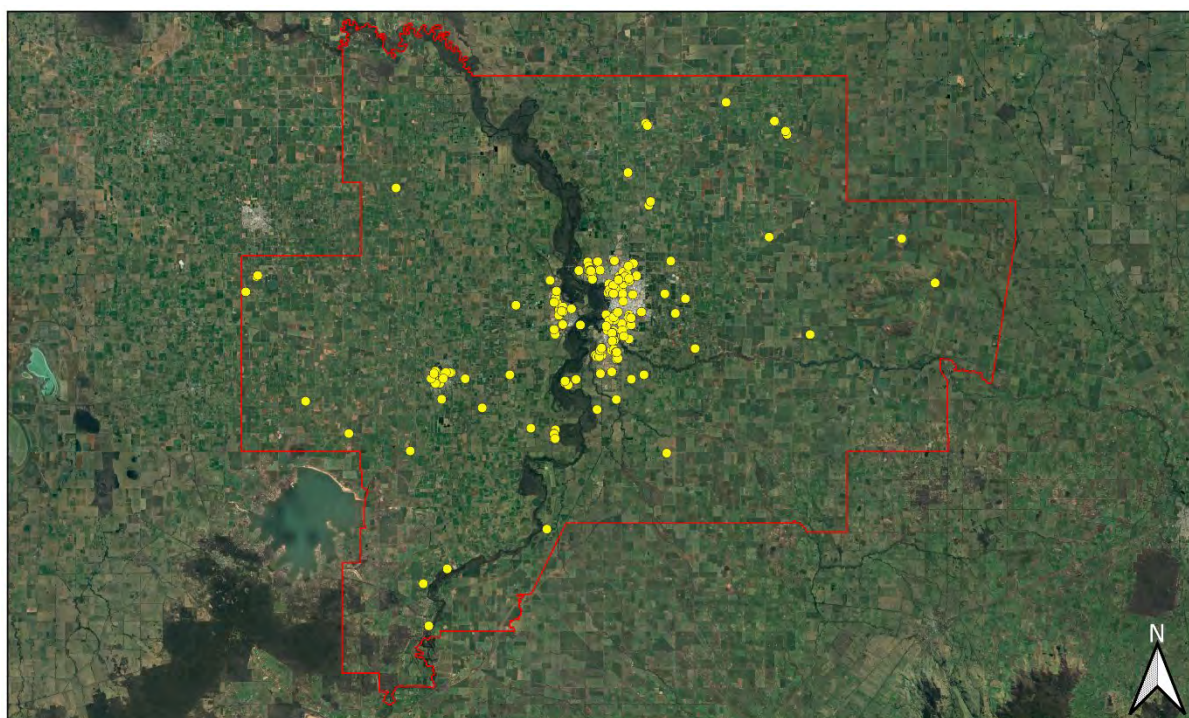
- Greater Shepparton City Council
- ◆ European Goldfinch





Legend

- Greater Shepparton City Council
- + Helmeted Guineafowl



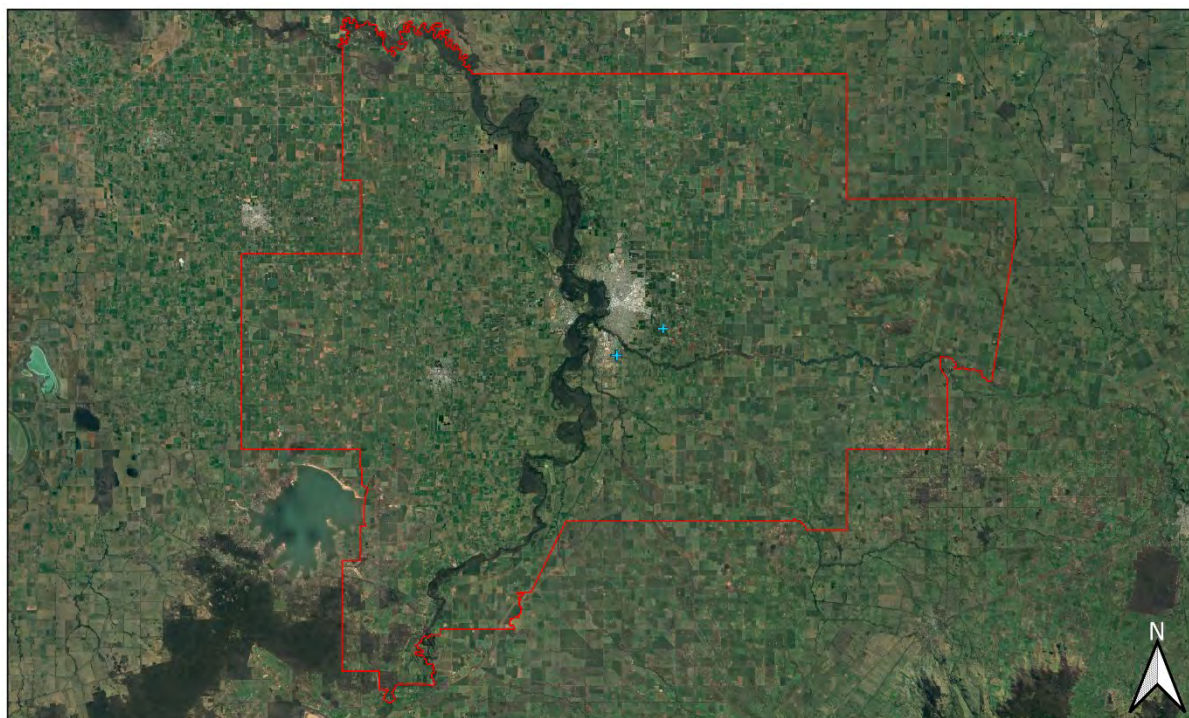
0 5 10 15 20 25 Kilometers



Legend

- Greater Shepparton City Council
- House Sparrow





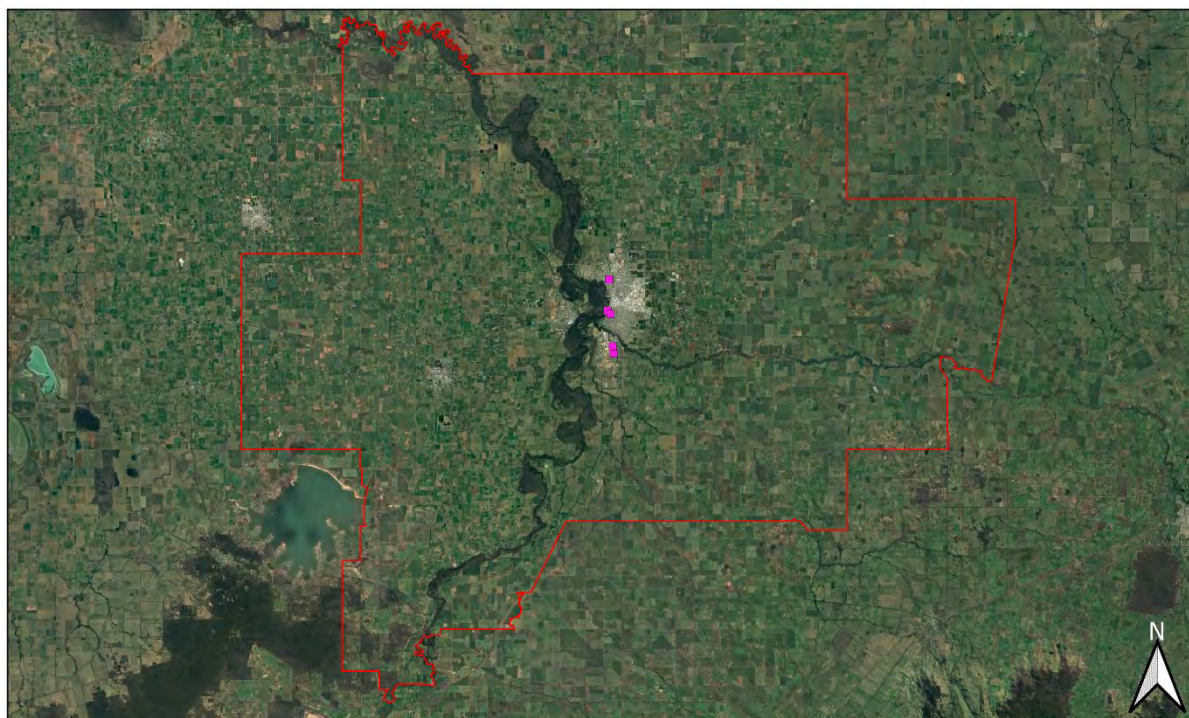
0 5 10 15 20 25 Kilometers



Legend

- Greater Shepparton City Council
- + Muscovy Duck





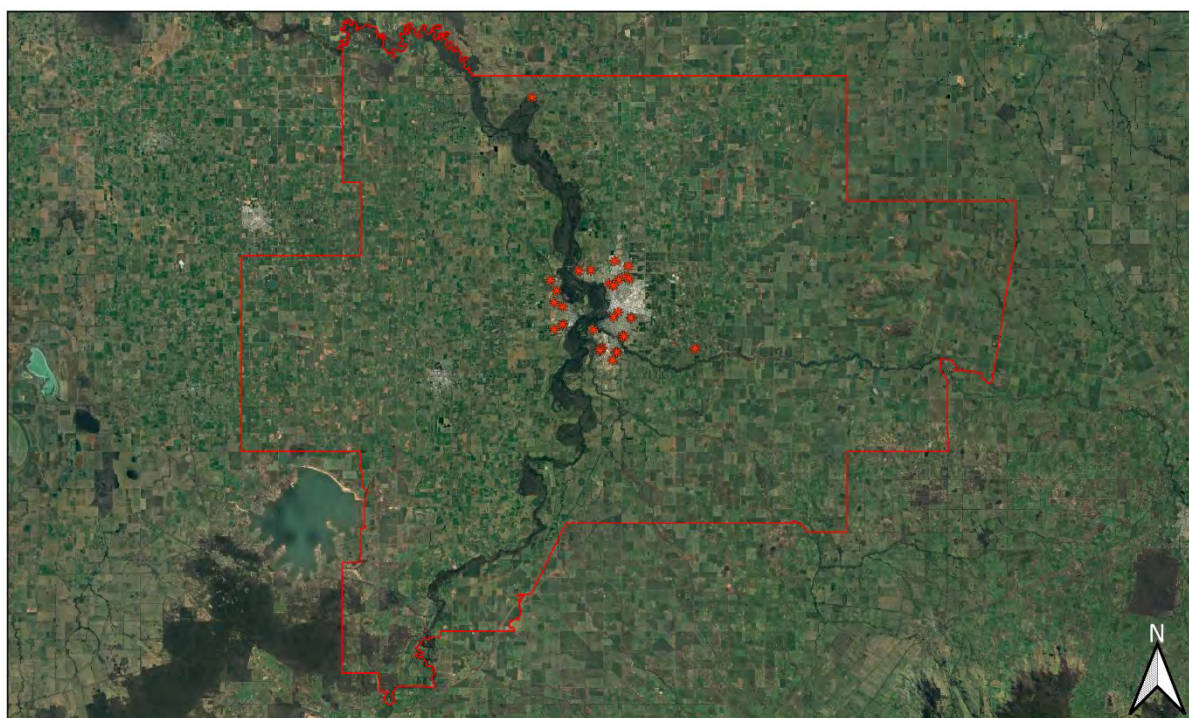
0 5 10 15 20 25 Kilometers



Legend

-  Greater Shepparton City Council
-  Rock Dove





0 5 10 15 20 25 Kilometers



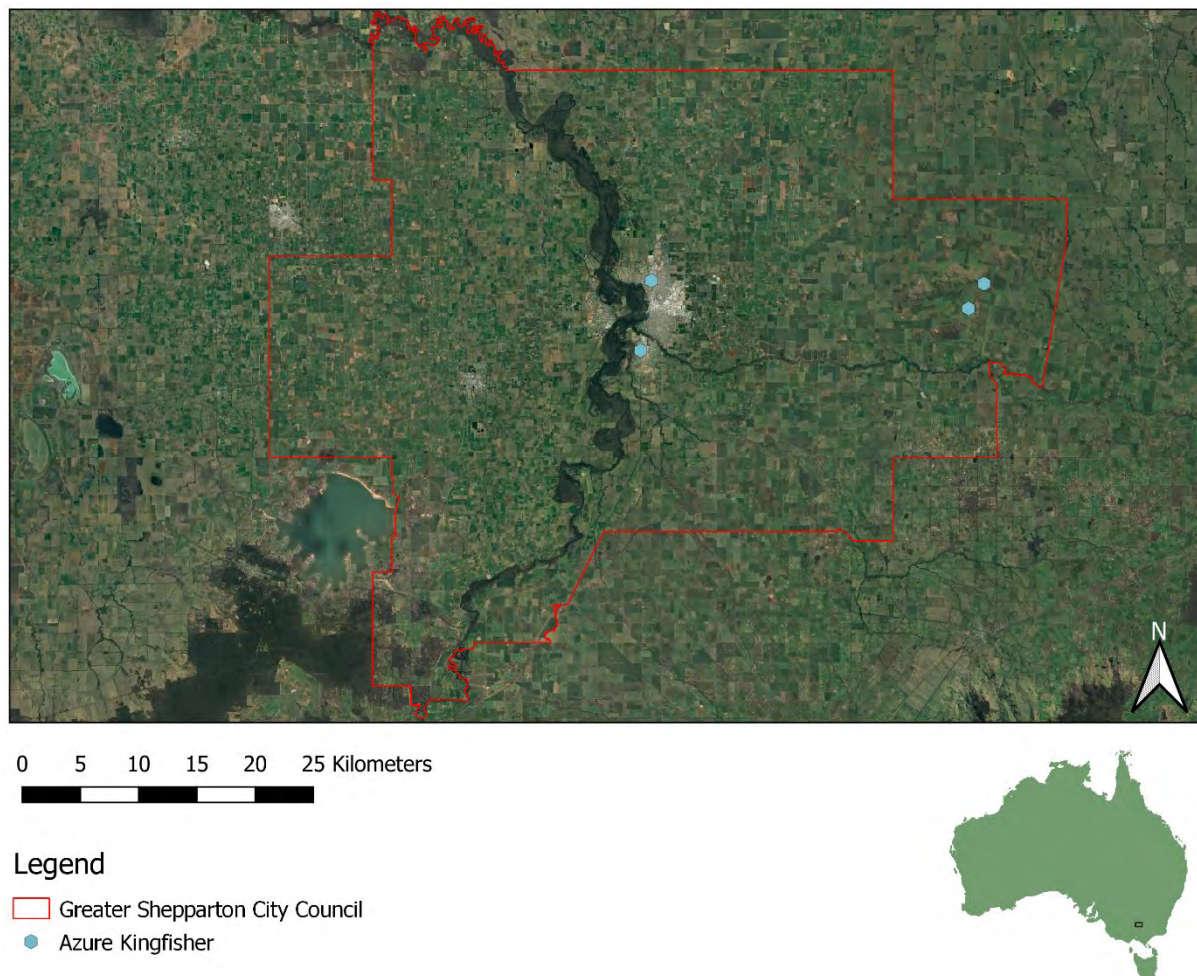
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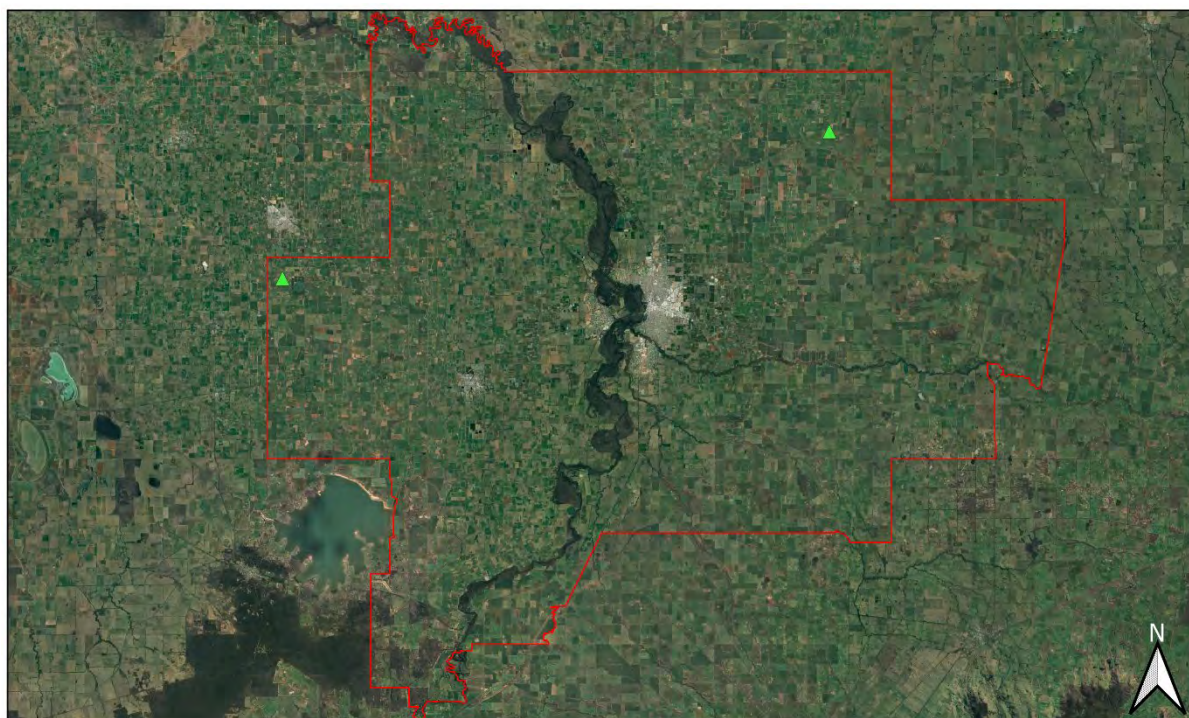
- Greater Shepparton City Council
- * Spotted Dove




Appendix Two – Threatened Species Maps

The individual distribution maps for each threatened species recorded within council boundaries during the 2021 Aussie Backyard Bird Count, in alphabetical order, are presented in Appendix Two. No figure captions have been provided, as the format is identical to that of Figure 5.





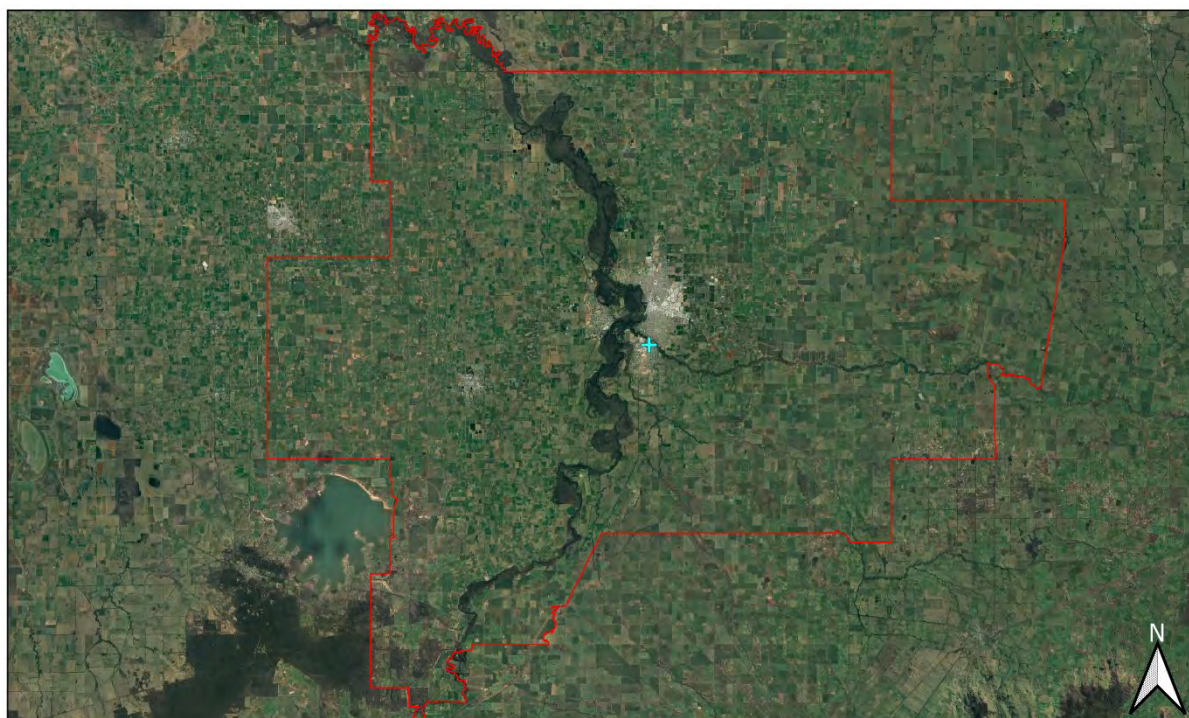
0 5 10 15 20 25 Kilometers



Legend

-  Greater Shepparton City Council
-  Black Falcon





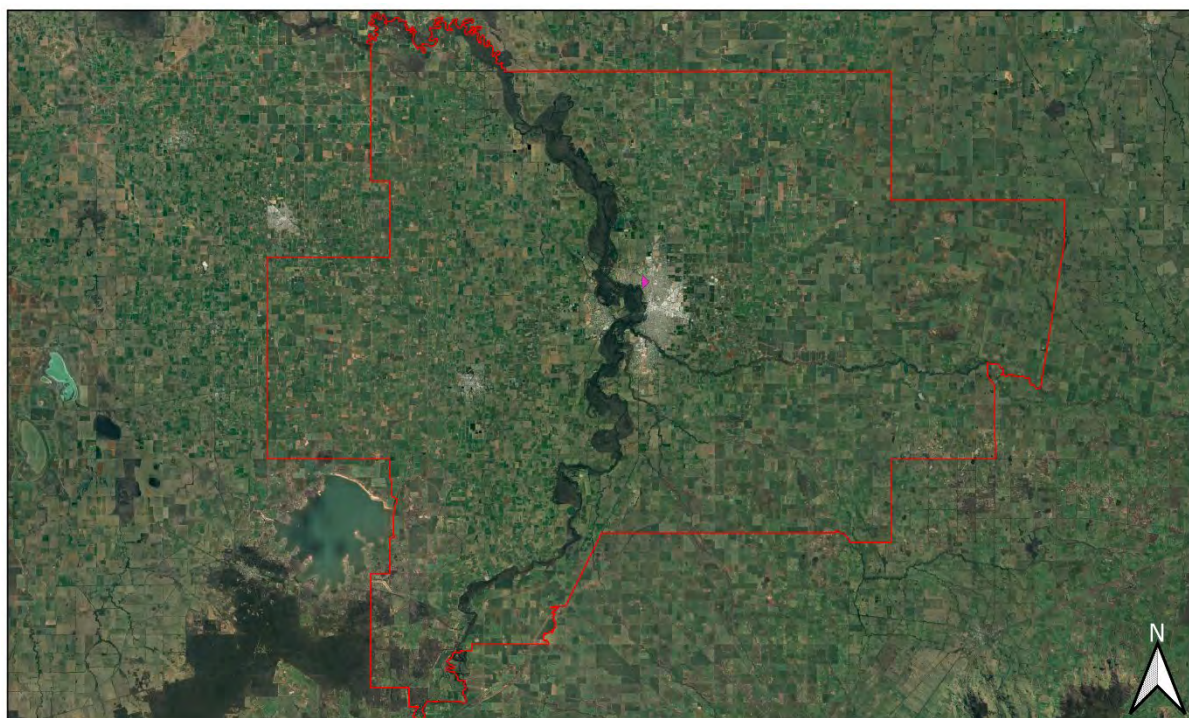
0 5 10 15 20 25 Kilometers




Legend

- Greater Shepparton City Council
- + Blue-billed Duck





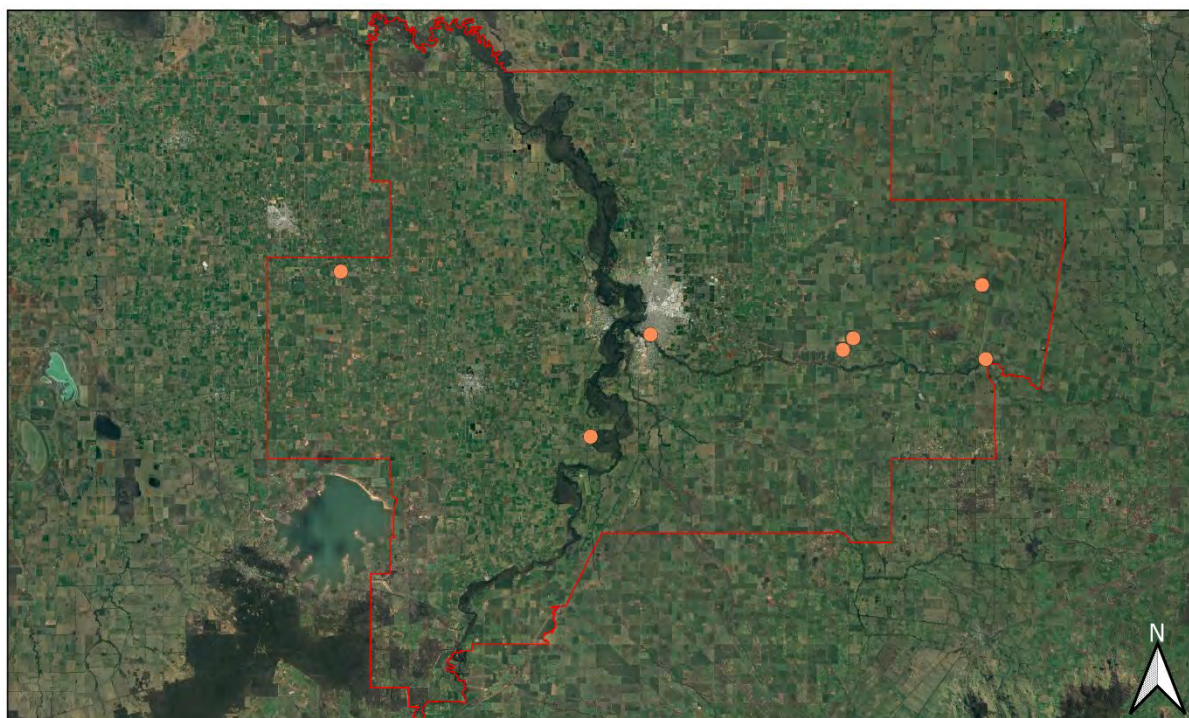
0 5 10 15 20 25 Kilometers



Legend

-  Greater Shepparton City Council
-  Brolga





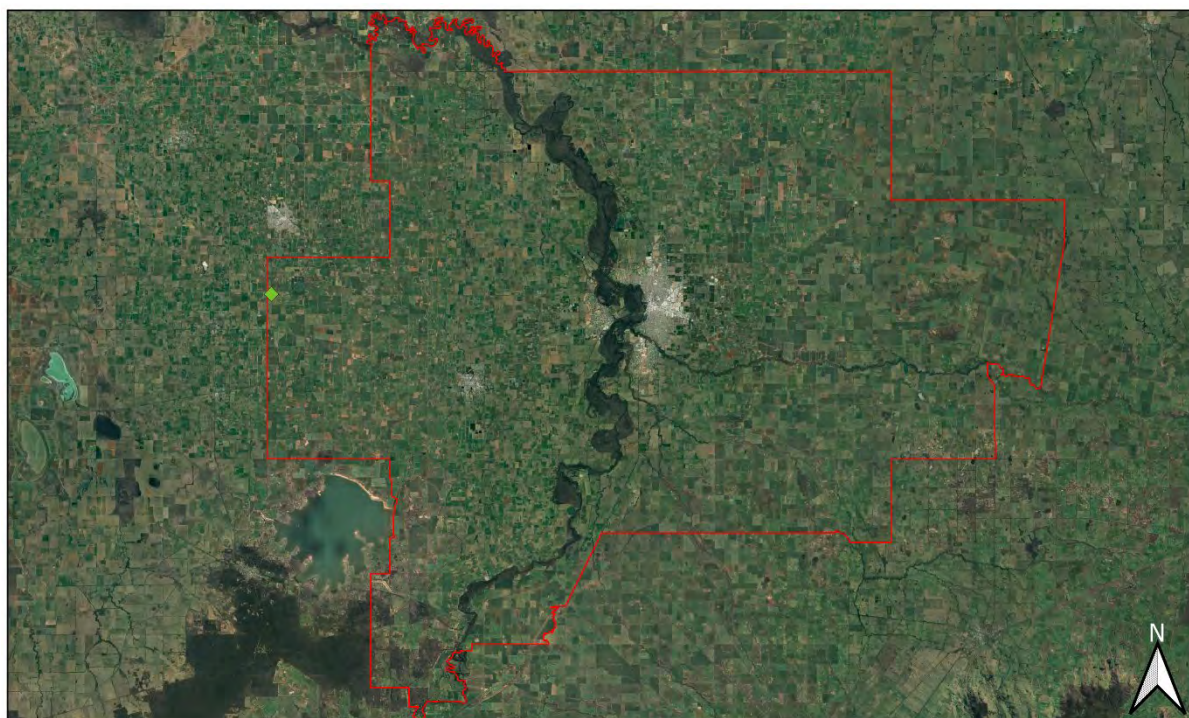
0 5 10 15 20 25 Kilometers




Legend

- Greater Shepparton City Council
- Brown Treecreeper





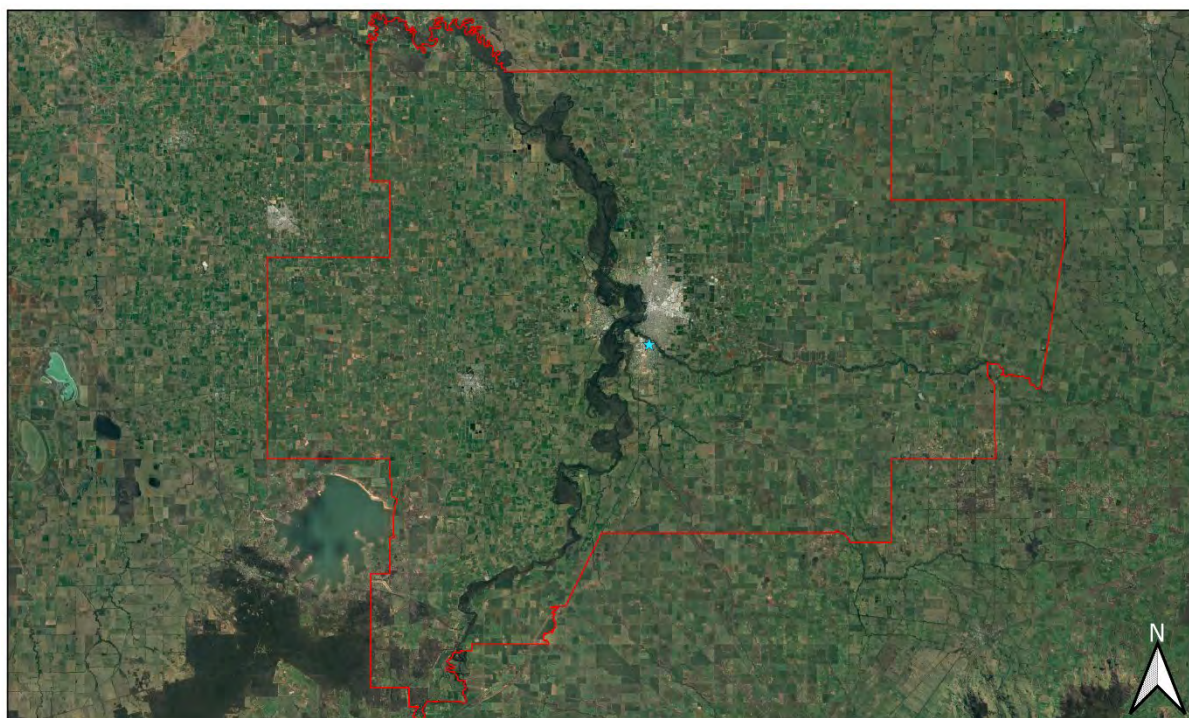
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Legend

-  Greater Shepparton City Council
-  Freckled Duck





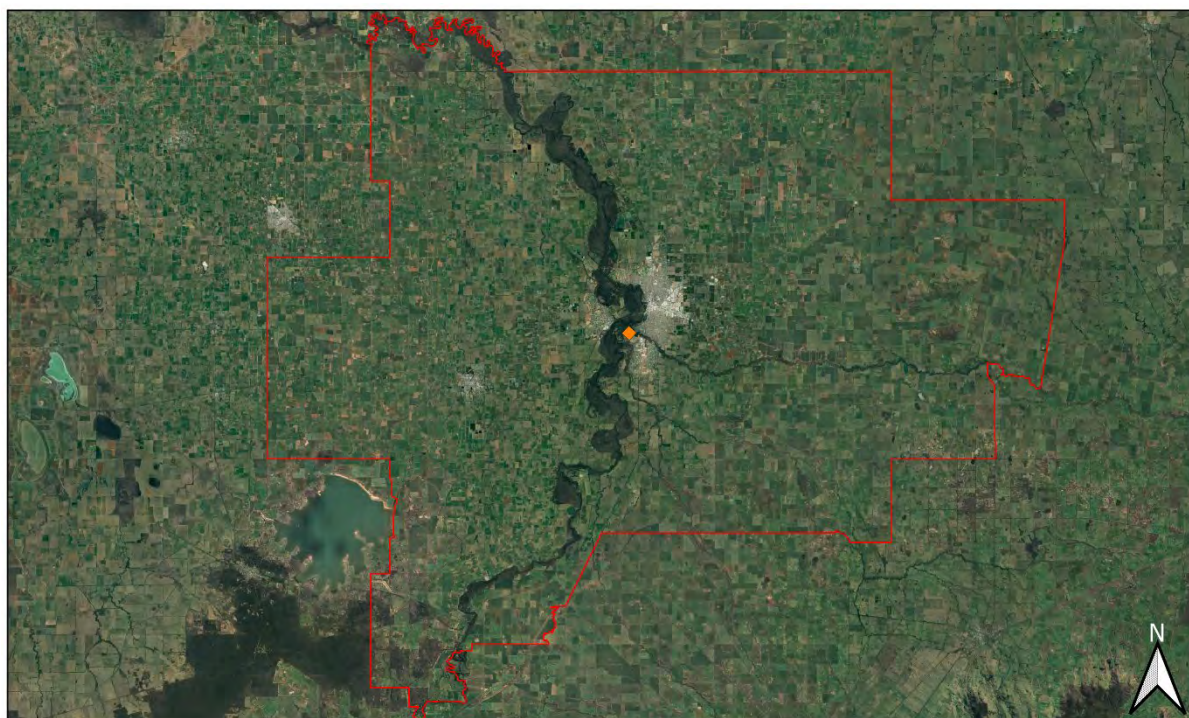
0 5 10 15 20 25 Kilometers




Legend

-  Greater Shepparton City Council
-  Glossy Ibis





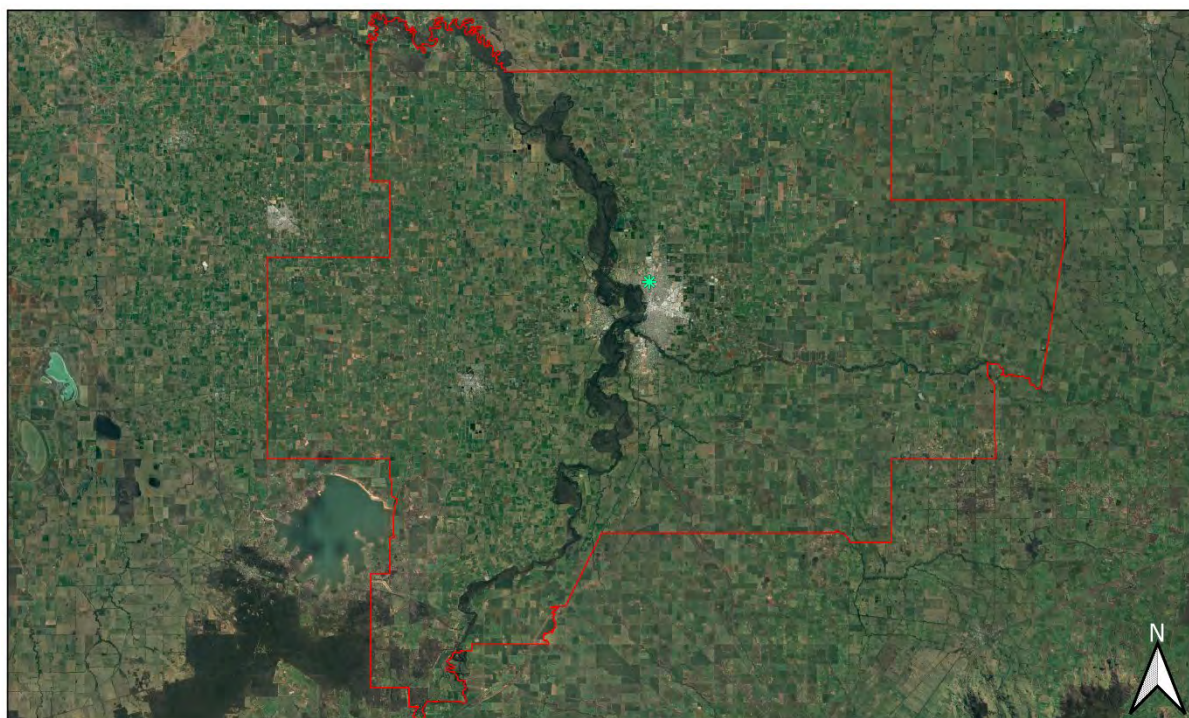
0 5 10 15 20 25 Kilometers




Legend

-  Greater Shepparton City Council
-  Grey-crowned Babbler





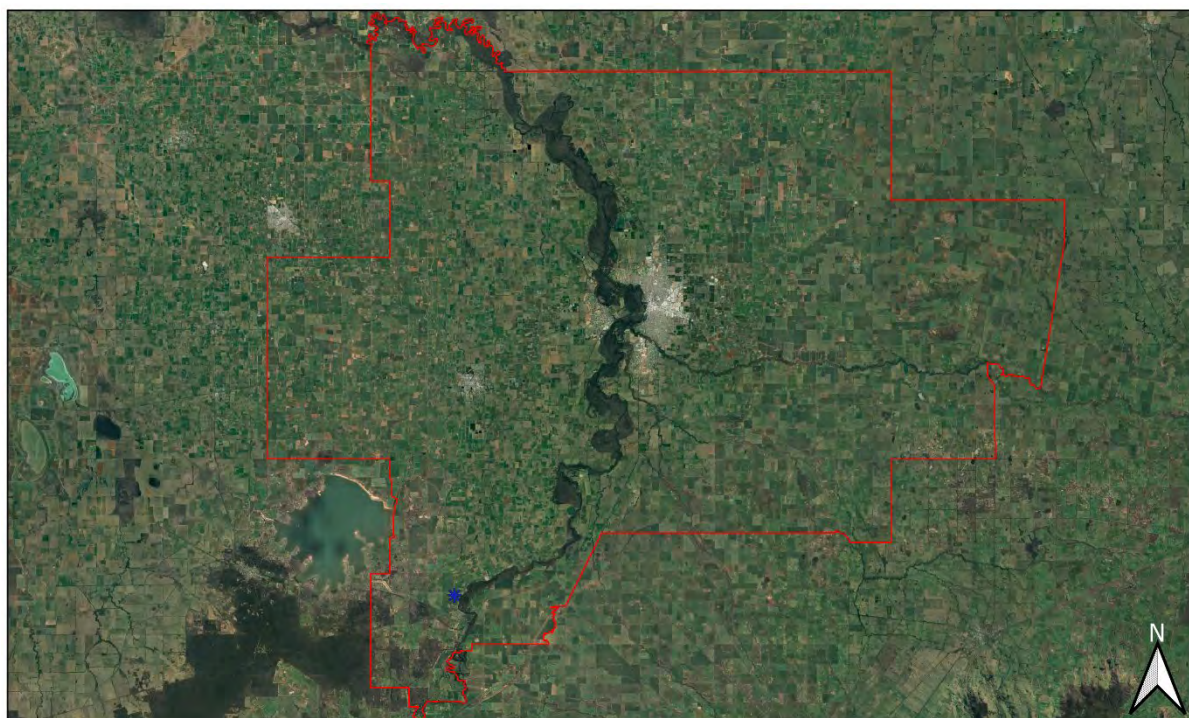
0 5 10 15 20 25 Kilometers




Legend

-  Greater Shepparton City Council
-  Hardhead





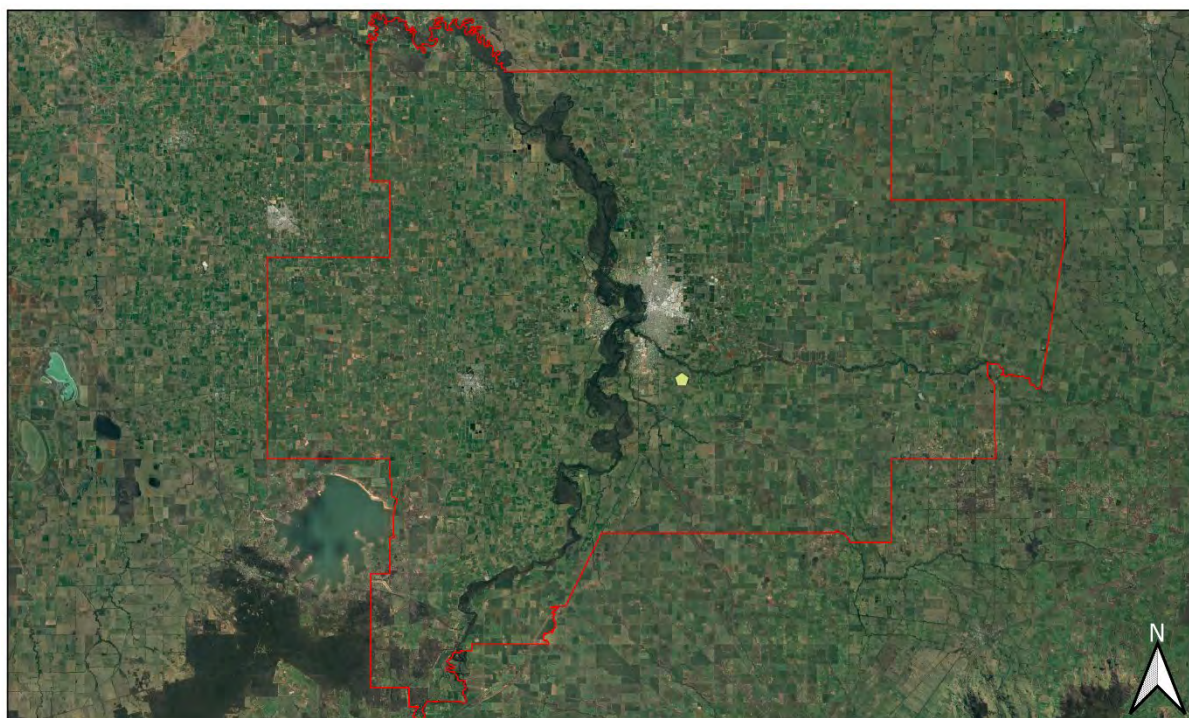
0 5 10 15 20 25 Kilometers



Legend

-  Greater Shepparton City Council
-  Hooded Robin





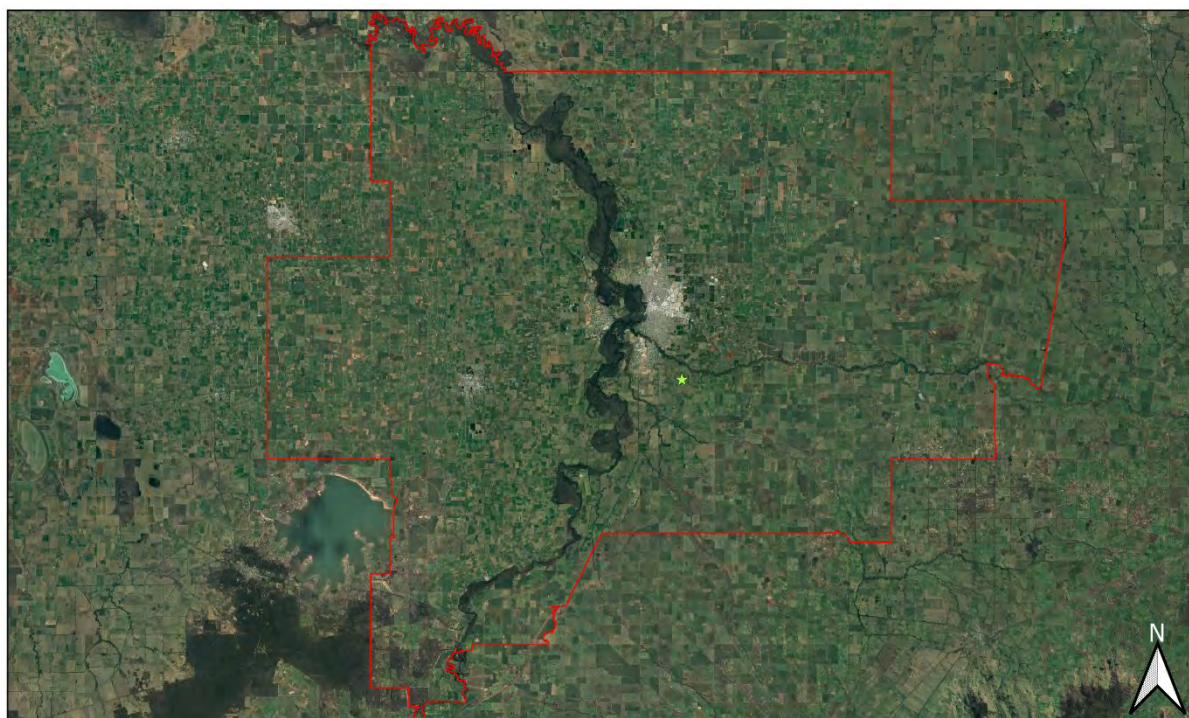
0 5 10 15 20 25 Kilometers




Legend

- Greater Shepparton City Council
- ◆ Intermediate Egret





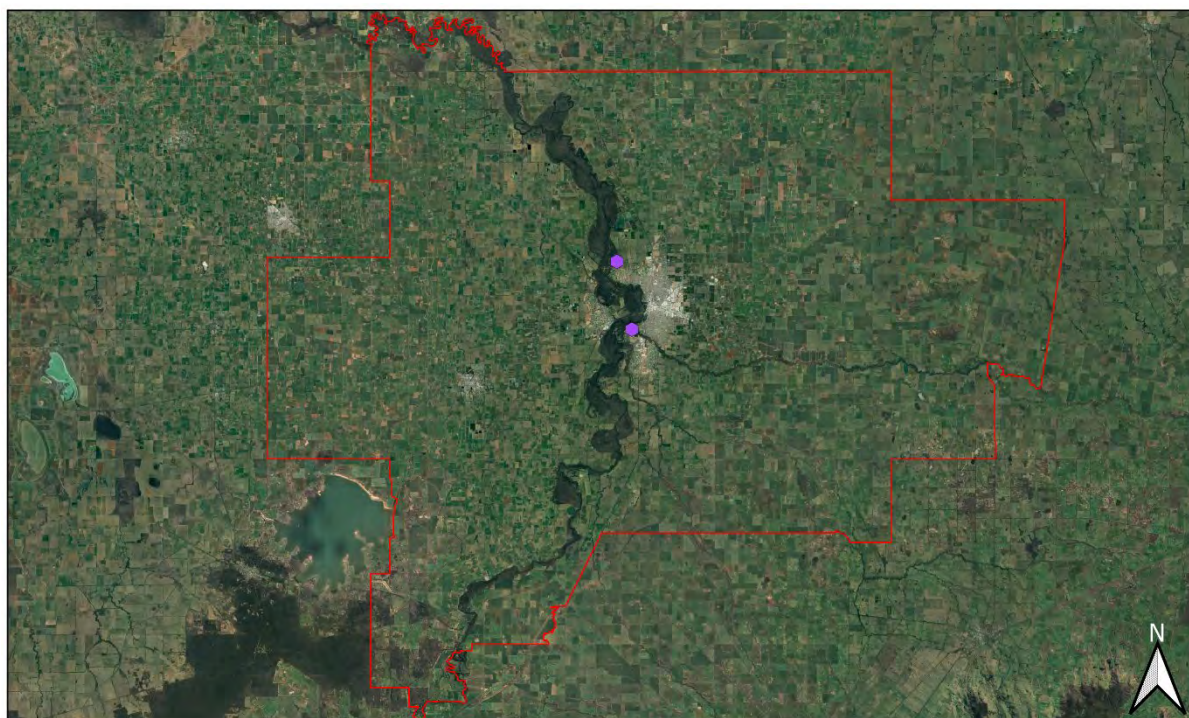
0 5 10 15 20 25 Kilometers



Legend

-  Greater Shepparton City Council
-  Little Egret





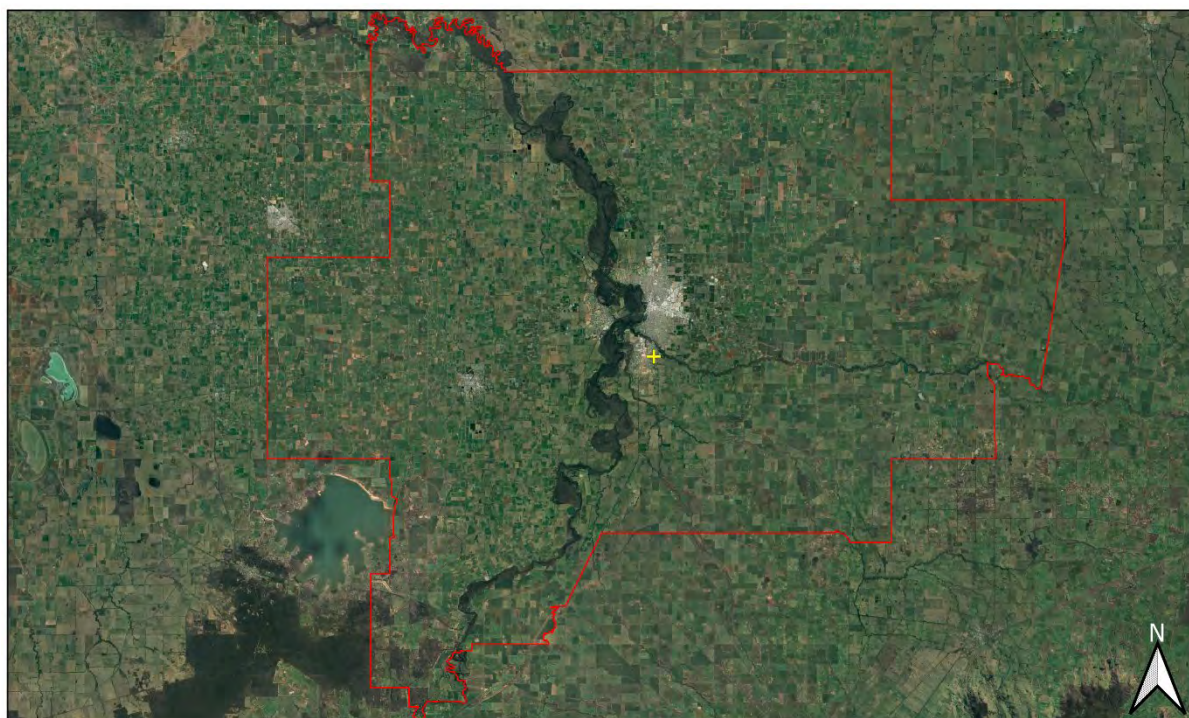
0 5 10 15 20 25 Kilometers

 A horizontal scale bar with alternating black and white segments, corresponding to the 0, 5, 10, 15, 20, and 25 kilometer markings.


Legend

-  Greater Shepparton City Council
-  Musk Duck





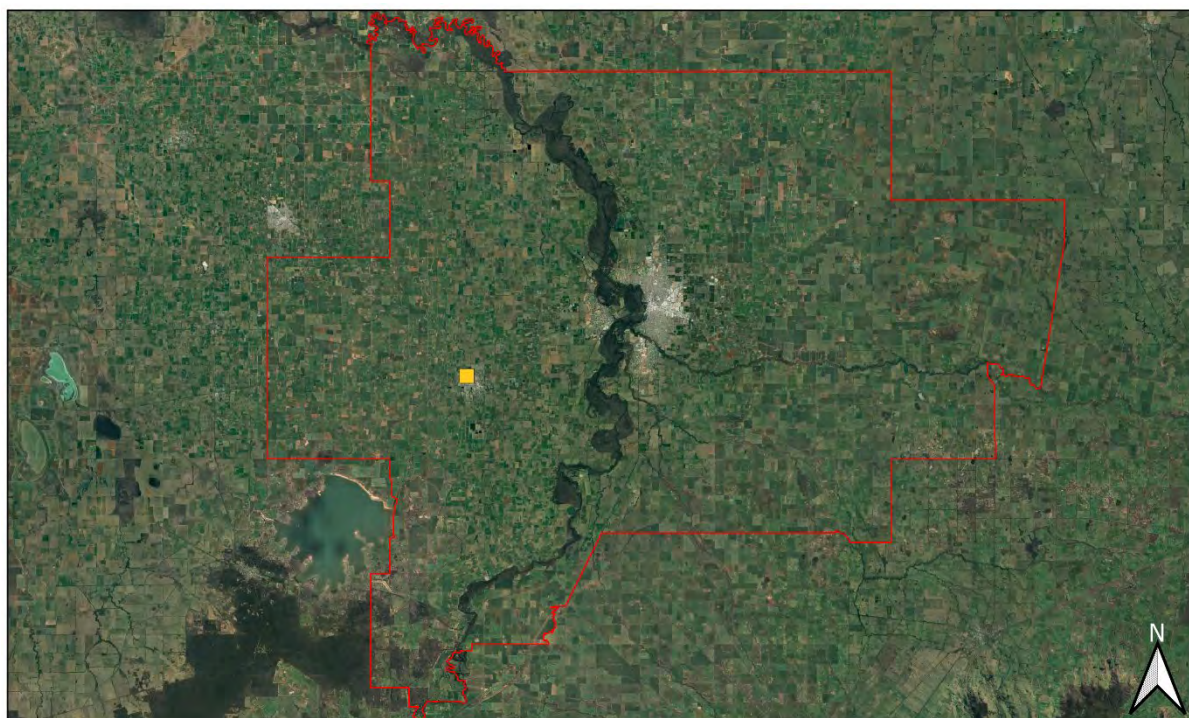
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Legend

-  Greater Shepparton City Council
-  Royal Spoonbill





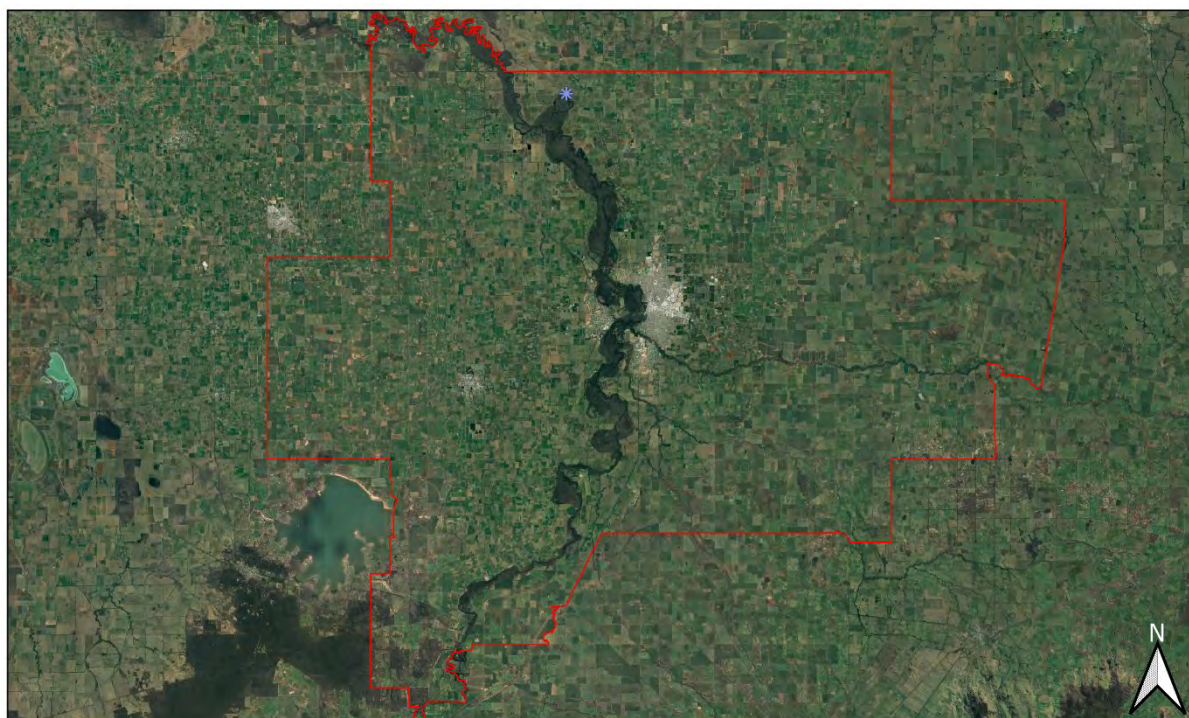
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Legend

-  Greater Shepparton City Council
-  Square-tailed Kite





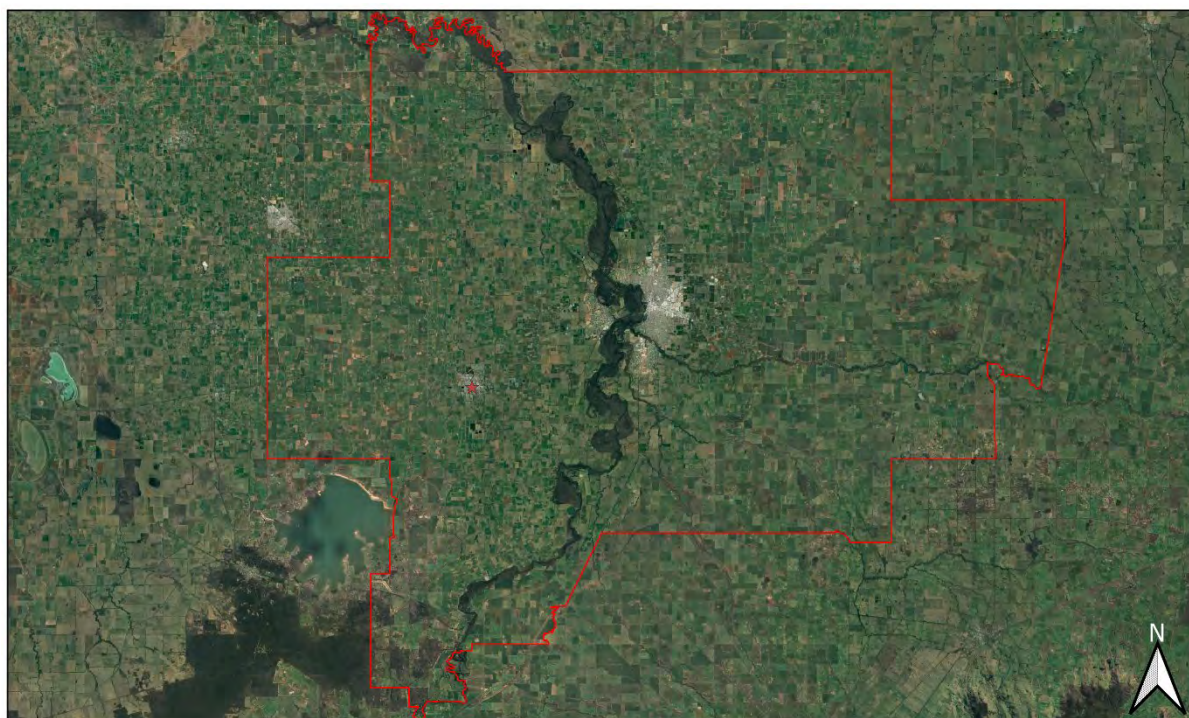
0 5 10 15 20 25 Kilometers




Legend

-  Greater Shepparton City Council
-  Superb Parrot





0 5 10 15 20 25 Kilometers



Legend

-  Greater Shepparton City Council
-  White-bellied Sea-Eagle

